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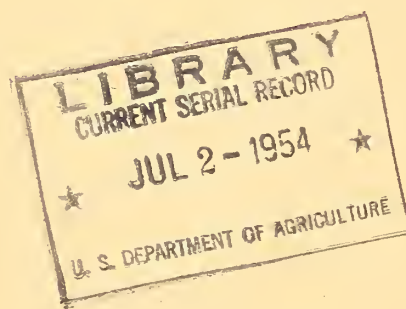
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THE TOBACCO INDUSTRY OF ITALY

by
JOHN E. MONTEL



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³THE TOBACCO INDUSTRY

OF ITALY¹¹

by

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PREFACE

The production of tobacco in Italy has increased roughly 90 percent since pre-war, and the crop is now second in value of all Italian industrial crops. Sales of tobacco products are one of the Government's principal sources of income; from them comes approximately 15 percent of total revenue.

Tobacco is also one of the farm products the United States needs to export. About one-fifth of all the tobacco produced on United States farms is sold abroad. These exports are part of the substantial stake American agriculture has long had in foreign trade. Postwar increases in tobacco production abroad, however, have begun to modify the competitive position of United States tobacco in international trade. Italy, for example, has shifted from being a minor exporter of tobacco in prewar to a major exporter in postwar. How strong the competition of Italian tobacco may be, must be considered in connection with the pressing economic problems affecting Italian agriculture.

Probably the most important single economic problem in Italy is the population-land imbalance: Too many people, too little land. The population density is 406 inhabitants per square mile. According to the last census (November 4, 1951, provisional data) Italy's population was 46.7 million--representing a tremendous source of manpower, but one that must find support on a land area roughly equivalent to that of California.

Since investment capital is comparatively limited in Italy, industry and agriculture are unable to make full use of available manpower. Total permanent unemployment is estimated at 1.3 million and it is thought that an equal number are temporarily unemployed. Underemployment among farm workers is widespread, and the Italian Government has made various attempts to give maximum employment to this group. A law in effect since World War II, which provides for compulsory hiring of workers (*imponibile di mano d'opera*), obliges farm owners to hire a predetermined number of workers, often in excess of their requirements. The number is based on size and type of farm, farm income, etc., without regard to the fact that hand labor could be replaced to some extent by farm machinery.

Land ownership has been a crucial problem for centuries. Most private land has remained in the same family for many generations. Prior to recent Government land reforms it was virtually impossible for a farm worker to acquire land of his own. In 1951, 0.5 percent of the land owners held 36 percent of all privately owned land. Statistical surveys show that, with few exceptions, the most economically depressed areas of Italy are the large concentrated holdings in the unfertile heavy clay soil regions in the south and in the islands. In those areas farmers have traditionally settled in villages on hilltops in order to avoid malaria. Thus many farmers have to travel as much as 10 or 12 miles daily to and from the farmland. Under such conditions land improvement is difficult.

Although basically an agricultural country, Italy is also traditionally a food-deficit country. This, together with a shortage of natural resources, has tended in the past few years to create a trade-deficit problem. True, substantial strides in trade expansion have been made since the end of World War II; as the general global level of employment rose, Italian exports expanded and, to some extent, made use of idle and underemployed labor and capital. At the same time, however, Italy's own economy expanded and consumer incomes rose, stimulated in part by defense production, and imports increased well over the level of exports. Today, then, Italy finds it increasingly difficult to maintain an active balance of trade, and is encouraging such enterprises as the tobacco industry which can exploit what resources Italy has and therefore produce for export.

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Italy is the largest producer of tobacco in Western Europe and ranks second only to Greece in area planted. Because of greater domestic requirements, production has gone up tremendously since before the war, stimulated by various programs of the monopoly; the 1947-51 output of tobacco, for example, was 80 percent higher than that of 1936-39. And the current market situation and level of technology indicate that production could continue to increase though moderately.

Italians have been growing tobacco for centuries. Shortly after it was first brought to Europe--early in the 16th century--a number of Italian nobles and officials of the church introduced the crop into the Brenta Valley of Veneto in northern Italy. At that time, only snuff and pipe tobaccos were grown and production areas were relatively limited. But the use of tobacco by notables increased its popularity, and by the middle of the 17th century tobacco was being grown as far south as Sicily.

By the early 1800's the manufacture of cigars from imported Kentucky fire-cured tobacco had begun in Florence, and in the late 1850's cigarettes were being made from imported tobacco. Domestic production of tobacco for these purposes, however, received little attention until after the unification of the country in 1870.

Long before that--early in the 18th century--the Italian states discovered that tobacco was a potentially large revenue-earner and began to establish monopolistic control of the industry, control that is still exercised today.

PRODUCTION

Tobacco is a crop that demands heavy hand labor and for that reason, among others, is particularly adapted to Italy, for its population pressure is great and its farm labor more than plentiful. Labor constitutes 60 to 70 percent of the cost of growing tobacco, according to estimates of the State Tobacco Monopoly. Pietro Cova, Director General of the Italian State Tobacco Monopoly, reports that during a crop year the cultivation, manufacture, and sale of tobacco give continuous work to more than 240,700 persons. Over 200,000 families depend on the growing of the crop for a living and roughly 100,000 are believed to obtain all or part of their livelihood from the manufacture and sale of tobacco products.

The number of man-hours per acre required to cultivate all types of tobacco in Italy runs as high as 1,332 in some regions; for the country as a whole, however, the average is 956, compared with 460¹ in the United States. The higher figure for Italy is due to many factors--to these, for example: Manpower is sometimes used in Italy for work done in the United States by animal power; slower oxen often substitute for mules; tractors are not generally used on Italy's tobacco farms; and transport is by animal rather than by truck, as in the United States.

Italy's climate is also well suited to the growing of tobacco, especially American types. In fact, more than 55 percent of Italy's current tobacco production is composed of these types; some of it is of Maryland and Burley tobaccos but the favored American types are Kentucky fire-cured and Bright Italia flue-cured. The rest of the current production is made up of Semioriental tobaccos (22 percent) and Subtropical and native types.

The heavy and medium-heavy types of tobacco are found mostly in the Po and Chiana Valleys in north and north-central Italy and in the plains areas of the Po River; the lighter-leaved Subtropical air-cured varieties, in the hilly areas of Veneto, Romagna, Tuscany, Umbria, and, in general, wherever better quality wines and fruits are produced; and the Semioriental varieties, in the warmer, drier hill areas of Apulia, Abruzzi, Lazio, Campania, and the island of Istria.

In the past few years, Italy has substantially increased tobacco production, not

¹ U. S. Dept. Agr., "Farm Labor Requirements in the United States, 1939 and 1944," by Reuben W. Hecht, April 1947.

Editor's Note: Seeming discrepancies in area and production figures shown in tables 4, 5, and 6 owe partly to the fact of different sources and partly to the rounding of figures when they were converted from the metric system.

TABLE 1.--Estimated number of man-hours required in one 300-day work year to produce 1 acre of tobacco in Italy, by region¹

Region	Man-hours		
	Men	Women	Total
Piedmont.....	260	829	1,089
Lombardy.....	348	942	1,290
Emilia.....	183	757	940
Venezia-Tridentina.....	126	1,206	1,332
Venezia-Giulia.....	134	681	815
Veneto.....	163	890	1,053
Tuscany.....	161	693	854
Umbria.....	288	794	1,082
Marche.....	278	807	1,085
Lazio.....	207	809	1,016
Abruzzi e Molise.....	124	759	883
Campania.....	278	818	1,096
Lucania (Basilicata).....	123	759	882
Calabria.....	210	846	1,056
Apulia.....	123	761	884
Sicily.....	50	314	364
Sardinia.....	74	458	532
Average.....	184	772	956

¹ From seeding to delivery to the monopoly or special concessionaires.

Source: Cova, Pietro, "Note Sull'Impiego di Mano d'Opera Nella Coltivazione e Lavorazione del Tabacco," Estratto dalla Rivista di Diritto Finanziario e Scienza delle Finanze, 1951, fasc. 4.

TABLE 2.--Average number of man-hours required in one 300-day work year to produce 1 acre of tobacco in Italy, by type¹

Type	Man-hours		
	Men	Women	Total
Kentucky.....	136	696	832
Semioriental.....	120	760	880
Beneventano.....	240	640	880
Nostrano.....	240	1,104	1,344
Bright Italia.....	408	848	1,256
Burley.....	544	1,152	1,696
Maryland.....	560	1,288	1,848
Subtropical.....	104	1,224	1,328

¹ From seeding to delivery to the monopoly or special concessionaire.

Source: Pietro Cova, "Note Sull'Impiego di Mano d'Opera Nella Coltivazione e Lavorazione del Tabacco," Estratto dalla Rivista di Diritto Finanziario e Scienza delle Finanze, 1951, fasc. 4.

TABLE 3.--Area and production of tobacco in Italy, by type, 1952 compared with 1936-39 average

Type	Area			Production ¹		
	1952	1952	Average 1936-39	1952	1952	Average 1936-39
	1,000 acres	Percent of total	Percent of total	Million pounds	Percent of total	Percent of total
Kentucky fire-cured.....	26.6	32.4	20.1	40.8	44.0	26.4
Semioriental.....	62.2	51.8	47.1	41.2	31.2	22.2
Beneventano dark air-cured.....	7.3	4.2	5.5	.7	4.7	5.5
Nostrano dark air-cured.....	7.9	3.0	6.0	14.7	3.9	8.2
Bright Italia flue-cured.....	13.3	2.5	11.0	26.2	4.2	18.4
Maryland light air-cured.....	3.8	1.5	2.9	9.5	3.8	6.4
Burley light air-cured.....	5.3	2.7	4.0	13.1	5.1	8.3
Subtropical air-cured.....	4.3	1.1	3.2	7.3	1.8	4.3
Blending dark air-cured.....	.03	.5	(²)	.01	.6	(²)
Snuff and nicotine dark air-cured.....	.3	.3	.2	.5	.7	.3
Total.....	131.0	100.0	100.0	161.0	100.0	100.0

¹ Farm-sales weight.² Insignificant.

Source: Calculations by Foreign Agricultural Service.

only in reference to the postwar period but also compared with the 6 years before World War II. Most of the increase was in Bright Italia, and reflects in part a continual rise in production of this variety. For instance, in 1936-39 Bright Italia flue-cured made up 4.2 percent of total production and in 1952, 18.4 percent. Acreage of Bright Italia has risen sharply, too; in 1936-39 it was 2.5 percent of the total and in 1952, 11 percent. Recently, the monopoly, a state-controlled organization that controls all phases of the tobacco industry in Italy, backed by several Italian agricultural economists, has been encouraging this trend and at the same time calling for continued decreases in acreage of Kentucky and Semioriental leaf, both traditionally heavy contributors to total production and often the basis of one-crop cultures in their production areas. Slight excesses in stocks of Burley leaf have recently begun to appear, and there have already been some requests for shifts from Burley to such types as Bright Italia, which are more easily absorbed by the market.

From an overall production standpoint, Kentucky fire-cured, Semioriental, and Bright Italia flue-cured are the most important types grown in Italy. Together the three account for about 80 and 70 percent of total acreage and production, respectively.² Since 1948, output of unmanufactured Bright Italia has almost doubled and acreage has more than doubled. As a matter of fact, Bright Italia is the only type of tobacco that has constantly increased in production through the past 7 years although others have shown moderate increases recently--Nostrano dark air-cured, Maryland, Burley, and Beneventano dark air-cured, for example.

As for acreage yields, they are generally good throughout most of Italy. The current average for the country is about 1,200 pounds per acre. Higher yields are for the most part in central and northern Italy because of the varieties produced and, to some extent, because of the use of more advanced technologies. The lowest yields are in Apulia and Basilicata, where Semioriental tobacco, inherently low yielding, is grown.

² Based on 1951, since the crop in 1952 was abnormally low due to severe drought.

KENTUCKY DARK FIRE-CURED

Kentucky dark fire-cured was one of the first types of tobacco brought to Italy. Originally, most of it went into snuff, but by the first quarter of the 19th century people were using more and more of it for pipe tobacco. Also, about this time craftsmen in home workshops in Tuscany began to turn out strong-flavored, dark cigars (sigaro Toscano) in which they used Kentucky tobacco. Demand for these cigars was soon general in Italy and probably more than anything else encouraged the increase in acreage of Kentucky leaf. Kentucky leaf is still used in the manufacture of Toscano cigars and in Napoletano cigars (both of which are made with strong, fermented tobacco), and in some brands of strong cigarettes and little cigars. Production-wise, Kentucky is the most important type grown in Italy today and accounts for more than 26 percent of total annual tobacco production. Kentucky leaf is grown principally in Venezia, Tuscany, Umbria, Campania, and to a lesser extent in Lombardy, Emilia, Marche, Latium, and the Piedmont, in order of relative importance.

Varieties

Italian scientists have done extensive breeding work with Kentucky and have developed a number of varieties and strains over the past 50 years. Among them, Kentucky Giant No. 1 and No. 2 are probably more widely cultivated than any other variety of Kentucky; No. 2 is especially vigorous and has better-than-average resistance to black root rot. Salento, Metticio di Cava, and Moro di Pontecorvo are all reportedly high in resistance to root rot, too, as is Perucci, which is also noted for its early maturing, high yield, and low nicotine content--from 3 to 5 percent. Metticio di Cava (used for high quality Toscano cigars), Moro di Pontecorvo, and Stortigliano all have very good burning qualities.

Market Characteristics

Kentucky tobacco grown in Italy often reaches 78 inches in height, with thick stems at the base and very long, sharply oval, drooping dark-green leaves. The cured leaf is heavy, elastic, and rubbery, uniformly dark brown in color, with an alkaloid content varying from 3 to 6 percent. Burning qualities are generally good, and taste and aroma are characteristically heavy, although they vary with region of production.

TABLE 4.--Area, yield per acre, and production of tobacco, average 1935-39 and 1947-51, annual 1947-52

Year	Area	Yield per acre	Production
	<i>Acres</i>	<i>Pounds</i>	<i>1000 pounds</i>
Average:			
1935-39.....	81,100	1,155	93,700
1947-51.....	142,464	1,179	167,926
Annual:			
1947.....	145,300	1,159	168,431
1948.....	144,000	1,140	164,100
1949.....	136,500	1,160	158,300
1950.....	144,240	1,202	173,400
1951.....	142,278	1,233	175,400
1952.....	131, 00	1,027	161,000

Source: Italian State Tobacco Monopoly and Foreign Agricultural Service.



Exceptionally good field of topped Resistente 142 cultivated by the Italian State Tobacco Monopoly in Verona. This is an acclimatized version of Root-Rot-Resistant Havana 142 and is the most important Subtropical variety grown in Italy. (Photograph courtesy of Italian State Tobacco Monopoly.)



Oriental tobacco dries on a typical rack on a small farm east of Rome. Women do much of the work involved in the curing process. (Photograph courtesy of Howard R. Cottam.)



Cigarettes are manufactured at the new Milan plant, which began operations in 1950. This factory has an average monthly output of 771,500 pounds of cigarettes and 110,000 pounds of smoking tobacco. It employs about 1,500 people; 7 out of 10 are women. (Photograph courtesy of Italian State Tobacco Monopoly.)

TABLE 5.--Area and production of tobacco in Italy, by type, average 1936-39 and 1947-51, annual 1947-52¹

Type	Average 1936-39		Average 1947-51		1947		1948	
	Area	Production	Area	Production	Area	Production	Area	Production
	1,000 acres	Million pounds	1,000 acres	Million pounds	1,000 acres	Million pounds	1,000 acres	Million pounds
Kentucky fire-cured.	24.9	42.1	37.3	51.4	37.9	54.2	39.5	51.9
Semioriental.....	43.8	29.3	69.4	52.9	75.0	57.2	69.7	54.8
Beneventano dark air-cured.....	3.2	4.3	6.2	7.2	4.8	6.1	6.4	7.2
Nostrano dark air- cured.....	2.3	3.5	5.0	7.8	3.4	4.6	4.4	5.9
Bright Italia flue- cured.....	2.0	3.8	8.2	16.1	6.1	13.0	6.7	11.3
Maryland light air- cured.....	1.2	3.4	3.0	7.8	2.6	6.4	2.8	7.3
Burley light air- cured.....	2.1	4.6	6.0	13.7	5.7	12.1	6.2	13.2
Subtropical air- cured.....	1.0	1.6	6.6	10.0	9.1	13.9	7.8	11.7
Blending dark air- cured.....	.4	.5	.15	.15	.4	.5	.1	.1
Snuff and Nicotine dark air-cured....	.2	.6	.64	.9	.3	.4	.4	.7
Total.....	81.1	93.7	142.5	167.9	145.3	168.4	144.0	164.1

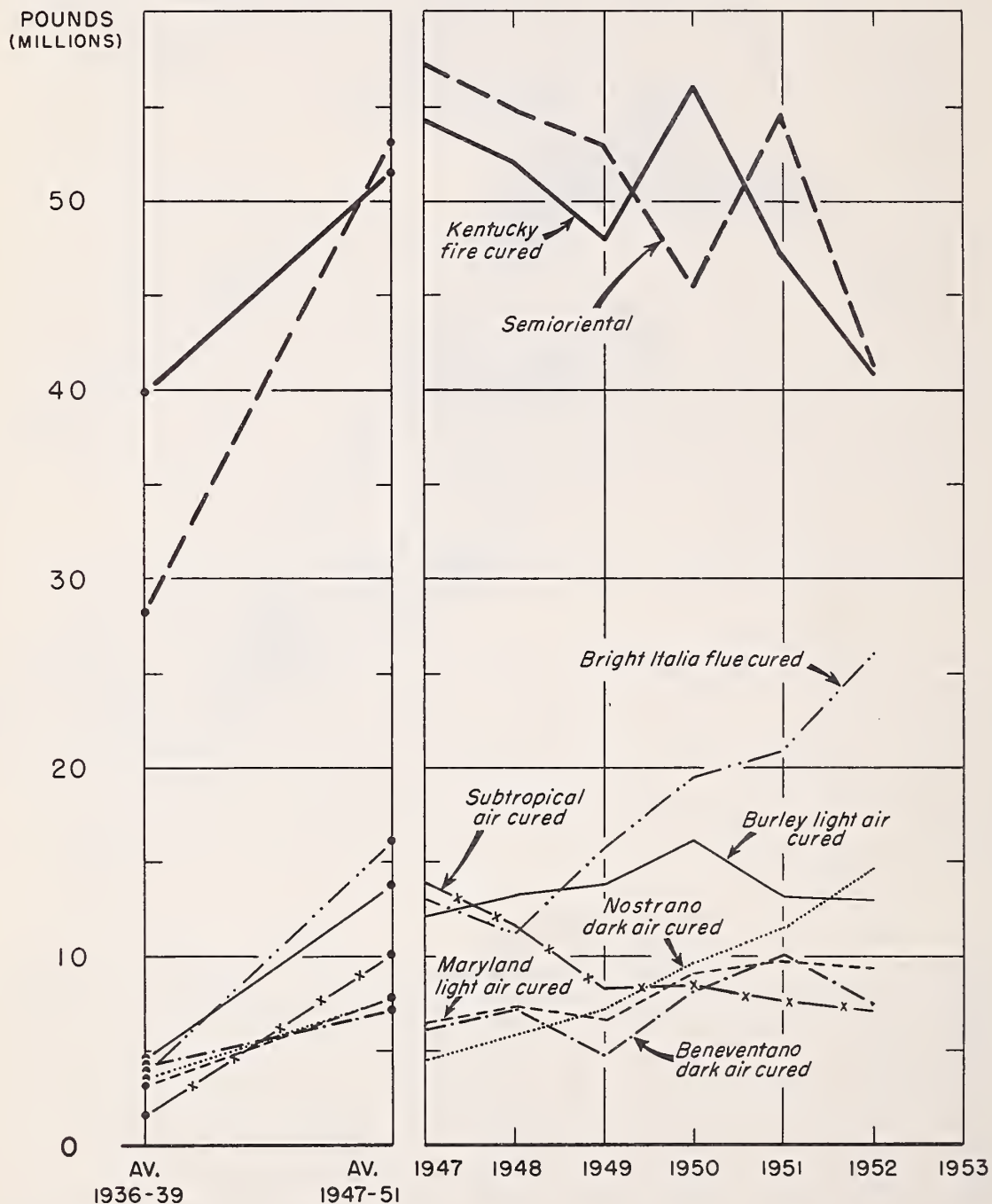
Type	1949		1950		1951		1952	
	Area	Production	Area	Production	Area	Production	Area	Production
	1,000 acres	Million pounds	1,000 acres	Million pounds	1,000 acres	Million pounds	1,000 acres	Million pounds
Kentucky fire-cured.	36.8	47.9	38.4	56.0	33.8	47.1	26.6	40.8
Semioriental.....	66.3	52.9	67.9	45.3	67.9	54.4	62.2	41.2
Beneventano dark air-cured.....	5.4	4.7	6.9	8.1	7.5	10.0	7.3	7.7
Nostrano dark air- cured.....	4.7	7.2	5.8	9.7	6.7	11.4	7.9	14.7
Bright Italia flue- cured.....	8.2	15.7	9.2	19.5	10.9	20.9	13.3	26.2
Maryland light air- cured.....	2.6	6.6	3.4	9.1	3.8	9.8	3.8	9.5
Burley light air- cured.....	5.9	13.8	6.4	16.1	5.8	13.1	5.3	13.1
Subtropical air- cured.....	5.8	8.3	5.3	8.5	4.9	7.6	4.3	7.3
Blending dark air- cured.....	.1	.1	.1	(²)	(²)	(²)	.03	.01
Snuff and nicotine dark air-cured....	.7	1.1	.9	1.1	.9	1.2	.3	.5
Total.....	136.5	158.3	144.2	173.4	142.3	175.4	131.0	161.0

¹ Farm-sales weight.

² Insignificant.

Source: Italian State Tobacco Monopoly and Italian Central Institute of Statistics (Istituto Centrale di Statistica).

TOBACCO: PRODUCTION OF MAJOR VARIETIES IN ITALY AVERAGE 1936-39 AND 1947-51, AND ANNUAL 1947-52



in Lecce (Apulia), the principal Semioriental-producing area.

Since consumption and exports of Semioriental leaf are considerably below production levels, the monopoly has for some time encouraged Lecce growers and others in Italy to change over to Bright varieties, which have been replacing the oriental leaf as favorites for cigarettes. Its efforts have met with substantial success except in Lecce, where soil and climate are suitable principally for Semioriental tobacco. Since the population in that area derives its income largely from cultivation of this type, the monopoly is faced with a difficult socio-economic problem.

Varieties and Market Characteristics

The most important Semioriental varieties are Xanti Yaka', Herzegovina, and Perustitza, only a small part of which is grown outside Lecce; that is found in the Province of Rome. Approximately half the acreage in Semioriental leaf is in Xanti Yaka; 40 percent is in Herzegovina and 10 percent in Perustitza.

Xanti Yaka' is divided into two strains on the basis of area of origin and appearance. The first, and more highly valued, is Abruzzi Yaka' characterized by its small, slender, pointed leaves. Its color is generally yellow and sometimes reddish yellow, often with small, brown, oily areas along the stem. The leaf is elastic and even rubbery with a pronounced aroma and good burning qualities. Lecce Yaka' differs from Abruzzi Yaka' in its lighter color, odor, and taste. Its nicotine content is lower and its burning quality in general is good.

Herzegovina, from which three strains--Lecce Valle, Abruzzi Valle, Lazio Valle--were derived, came from Austria-Hungary and Yugoslavia, and was one of the first Semioriental varieties brought to Italy. Original plantings were made about 1893 in Lecce. The plant is a typical tobacco hybrid in appearance with leaves close to the main stem and the flower almost enclosed by the terminal leaves. Leaves are smooth, light in texture, and fairly elastic. Herzegovina is a brilliant yellow with reddish circular spots. It cures easily and has a slight odor and excellent burning qualities.

Perustitza was first brought to Italy around 1922 from Bulgaria and through selective breeding work was used to develop three Italian strains--Lecce Aromatico, Abruzzi Aromatico, and Lazio Aromatico. Perustitza is a slender plant about 4 feet tall with erect widely spaced leaves on the stalk. The cured leaf is soft and smooth, with inconspicuous veining. It is yellow red-gold with brown spots toward the end of the leaf and along secondary veins. The aroma is pronounced and burning qualities are considered excellent.

Cultivation and Curing

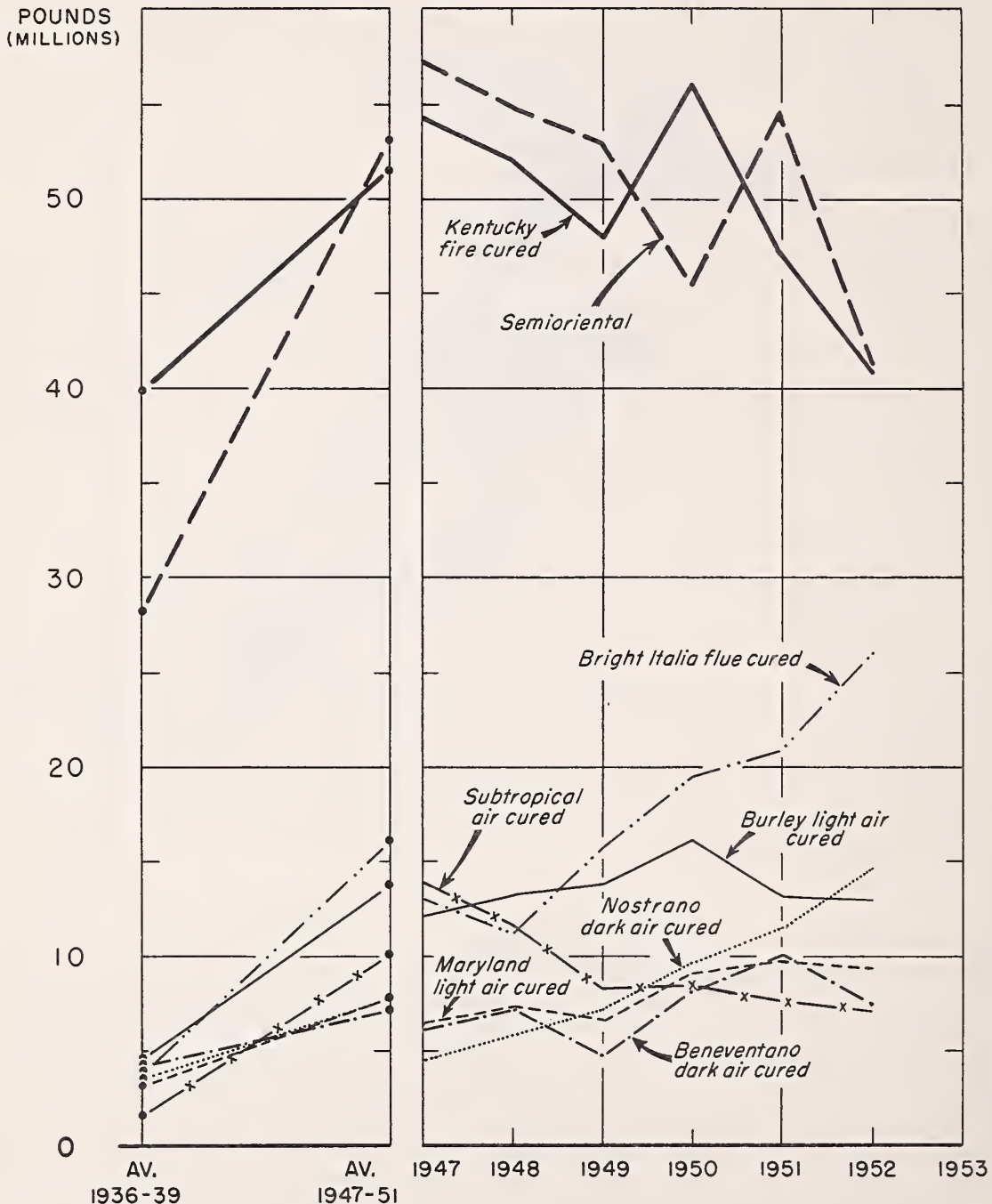
Semioriental is seeded in January or in February, depending on the location, and seedbeds are usually covered with light cotton cloth. Flats are filled either with sterilized earth or with horse or sheep manure. Before transplanting, the monopoly recommends an application of organic fertilizer at about 5 tons per acre, or the pasturing of a flock of sheep for some time on the land prior to transplanting. Italy has had best results with Semioriental when it has been grown on sandy clay limestone soils that are not too compact, a bit pebbly, and with a rather low organic content.

Semioriental leaf is considered mature when leaf edges are yellow and yellow-green spots appear on the leaves--generally in August-September. Most Semioriental tobacco is sun cured. Leaves are separated by grade and then bulked for about 2 days until they are sufficiently dried and yellow. A string is threaded through 150-200 leaves and tied to racks in a dark area, which is protected from drafts. After 1 or 2 days, the leaves are stretched and hung or laid out flat in the sun for 15-20 days.

BENEVENTANO DARK AIR-CURED

Beneventano dark air-cured was one of the first tobaccos introduced into Italy and has been cultivated there since the latter part of the 18th century, mostly in Campania. It is the most widely grown of the early tobaccos, but, from the point of view of quantity, its production is relatively unimportant. When fully flowered, the

TOBACCO: PRODUCTION OF MAJOR VARIETIES IN ITALY AVERAGE 1936-39 AND 1947-51, AND ANNUAL 1947-52



in Lecce (Apulia), the principal Semioriental-producing area.

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Cultivation and Curing

Semioriental is seeded in January or in February, depending on the location, and seedbeds are usually covered with light cotton cloth. Flats are filled either with sterilized earth or with horse or sheep manure. Before transplanting, the monopoly recommends an application of organic fertilizer at about 5 tons per acre, or the pasturing of a flock of sheep for some time on the land prior to transplanting. Italy has had best results with Semioriental when it has been grown on sandy clay limestone soils that are not too compact, a bit pebbly, and with a rather low organic content.

Semioriental leaf is considered mature when leaf edges are yellow and yellow-green spots appear on the leaves--generally in August-September. Most Semioriental tobacco is sun cured. Leaves are separated by grade and then bulked for about 2 days until they are sufficiently dried and yellow. A string is threaded through 150-200 leaves and tied to racks in a dark area, which is protected from drafts. After 1 or 2 days, the leaves are stretched and hung or laid out flat in the sun for 15-20 days.

BENEVENTANO DARK AIR-CURED

Beneventano dark air-cured was one of the first tobaccos introduced into Italy and has been cultivated there since the latter part of the 18th century, mostly in Campania. It is the most widely grown of the early tobaccos, but, from the point of view of quantity, its production is relatively unimportant. When fully flowered, the

TABLE 6.--Area and production of tobacco in Italy, by region, average 1936-39 and 1947-51, annual 1947-52¹

Region	Average 1936-39		Average 1947-51		1947		1948	
	Area	Production	Area	Production	Area	Production	Area	Production
	<i>1,000 acres</i>	<i>Million pounds</i>	<i>1,000 acres</i>	<i>Million pounds</i>	<i>1,000 acres</i>	<i>Million pounds</i>	<i>1,000 acres</i>	<i>Million pounds</i>
Piedmont.....	0.5	0.9	1.0	1.5	1.0	1.1	1.0	1.4
Lombardy.....	1.7	2.6	4.3	7.4	4.2	6.2	4.7	7.3
Trentino Alto Adige.	1.0	1.5	.9	1.0	.7	.7	.9	.8
Veneto.....	10.6	17.0	20.8	29.3	21.0	29.1	22.0	28.2
Friuli-Venezia Giulia.....	.7	1.3	2.0	3.7	2.0	3.5	2.2	3.3
Emilia-Romagna.....	3.2	5.1	2.7	3.8	2.7	3.7	2.5	3.0
Tuscany.....	4.2	6.8	7.5	11.2	7.1	11.2	7.4	11.6
Umbria.....	3.2	6.0	12.6	22.4	12.4	24.3	12.4	20.0
Marche.....	1.0	1.5	2.7	4.1	2.7	4.2	2.7	3.9
Lazio.....	2.0	2.2	5.4	6.2	4.2	4.6	4.7	6.0
Abruzzi e Molise....	4.8	3.7	6.5	5.6	6.4	6.6	7.2	6.7
Campania.....	9.4	17.0	16.9	26.9	15.6	24.9	17.5	26.8
Apulia.....	37.9	27.0	53.3	40.3	58.7	43.0	52.8	40.9
Basilicata.....	.2	(²)	4.4	3.1	5.7	4.0	4.8	2.8
Calabria.....	(²)	(²)	.4	.4	.2	.2	.5	.4
Sicily.....	.5	.7	.6	.8	.5	.7	.5	.8
Sardinia.....	.2	.4	.3	.9	.2	.4	.2	2.9
Total.....	81.1	93.7	142.3	168.6	145.3	168.4	144.0	164.1

Region	1949		1950		1951		1952	
	Area	Production	Area	Production	Area	Production	Area	Production
	<i>1,000 acres</i>	<i>Million pounds</i>	<i>1,000 acres</i>	<i>Million pounds</i>	<i>1,000 acres</i>	<i>Million pounds</i>	<i>1,000 acres</i>	<i>Million pounds</i>
Piedmont.....	1.0	1.5	1.2	1.8	1.0	1.6	1.0	1.7
Lombardy.....	3.7	6.6	4.7	9.7	4.4	7.3	3.8	7.9
Trentino Alto Adige.	.7	1.1	1.0	1.1	1.0	1.1	.8	1.2
Veneto.....	20.0	26.5	21.0	32.8	20.0	29.8	18.3	30.6
Friuli-Venezia Giulia.....	2.0	3.5	2.0	4.2	2.0	3.8	2.3	4.6
Emilia-Romagna.....	2.7	4.0	3.0	4.0	2.7	4.2	2.1	3.3
Tuscany.....	7.8	10.6	7.7	11.4	7.7	11.2	6.8	11.7
Umbria.....	12.8	22.3	12.6	23.9	12.6	21.6	12.5	24.3
Marche.....	2.7	4.0	2.7	4.0	2.7	4.2	2.1	3.0
Lazio.....	5.4	6.4	6.2	7.3	6.4	6.8	6.2	7.4
Abruzzi e Molise....	6.4	6.0	6.2	3.5	6.4	5.2	5.3	2.5
Campania.....	15.1	21.4	18.5	30.2	18.0	31.3	16.7	26.3
Apulia.....	51.5	40.9	51.5	34.4	52.0	42.3	48.4	33.3
Basilicata.....	3.5	2.2	4.2	3.3	4.0	3.3	3.7	2.2
Calabria.....	.5	.4	.5	.4	.5	.4	.4	.3
Sicily.....	.5	.9	.7	.9	.7	.9	.4	.5
Sardinia.....	.2	.2	.5	.4	.2	.4	.2	.2
Total.....	136.5	158.3	144.2	173.4	142.3	175.4	131.0	161.0

¹ Farm-sales weight.² Insignificant.

Source: Italian Central Institute of Statistics (Istituto Centrale di Statistica).

plant is usually just over 5 feet high and has from 20 to 25 medium-green leaves. It is grown mostly in hill areas in the Provinces of Benevento and Avellino and is characteristically a lower yielding type than Kentucky.

Market Characteristics

The cured leaf is comparatively small and very fine in texture; it is resistant and elastic and, if cured in silos, a light brown. If air-cured, it is dark brown. The nicotine content is low and the leaf is considered to be fairly aromatic and agreeable to the taste. Burning qualities are considered very good. Beneventano is used for pipe tobacco, for two brands of Italian cigarettes, and for Swiss-type cigars.

Cultivation

January and February are normally the seeding months, and the plant beds are sown rather thickly. Transplanting takes place in May-June in lightly fertilized ground preferably where legumes have been plowed under. An acre carries about 9,700 plants. The plants are generally topped (seed head broken out) around July while the flower is still closed, and they are suckered frequently. About 20 leaves are left on the plant. Harvest begins in early August and continues through October. Beneventano yields on the average about 1,160 pounds per acre.

Curing

A special method for curing is used in areas where either the weather or location is not suitable for slow, complete drying. The method consists of bulking the leaves for 24 hours under straw covers with the base of the leaf toward the ground. The leaves are then threaded on string and hung on frames under shelter until yellowing is complete. Then they are rebulked in small piles for 24 hours, after which each string of leaves is completely dipped in cold or tepid water and then piled high, stem end out, to ferment. The internal temperature of these piles rises to about 140° F. Fermentation lasts 5 or 6 days during which the piles are frequently turned. Sometimes, the practice is to water-dip twice. When fermentation is complete, the leaves are dark brown. At this point, they lack elasticity and the veining is almost indistinguishable. After fermentation, the strings are again hung indoors on frames, for final drying and tying into hands.

If Beneventano is to be used for pipe tobacco and its characteristic aroma, taste, and burn are to be preserved, then curing is to a large extent done in silos, much as for Kentucky leaf. Here the first step is air drying until the stem is much reduced in size but not completely dry. Then the leaves are piled for a short time to ensure even humidity throughout the pile, after which they are bulked for from 20 to 25 days. Each silo holds about 3,300 pounds.

After grading and sorting, Beneventano leaf is packed in bales weighing about 770 pounds.

NOSTRANO DARK AIR-CURED (NOSTRANO DEL BRENTA)

Nostrano dark air-cured is probably the oldest type of tobacco grown in Italy. It dates back to the end of the 16th century when it was first cultivated in the Valley of Brenta in Veneto. This valley is still the center of Nostrano production and its cultivation has not spread to any great extent beyond that limited area. Nostrano is relatively insignificant compared with other types cultivated in Italy--production is currently 9.7 million pounds--about 6 percent of the total tobacco production.

Varieties and Market Characteristics

Three varieties of Nostrano del Brenta are currently grown: Avaneone, Avanetta, and Cucchetto. Avaneone has pointed oval bright-green leaves. The leaf tissue is soft and the stem and veins are comparatively thick. When the plant is close to maturity,

the leaf edges begin to fold back. After about 20 leaves have fully matured on the plant, it begins to flower immediately, indicating the relatively small plant size. Avaneone is late maturing and fairly resistant to rust; it is slowly giving way to Avaneetta. Both varieties are used in mixtures of light tobacco.

Avaneetta leaves are almost round or round-oval, dark green, and rather widely spaced on the stalk. Avaneetta liscia leaves are smooth textured. Avaneetta riccia leaves are rough or curly textured and are used exclusively for snuff. Because of its comparatively thick leaf tissue, A. riccia is measureably resistant to hail. Its resistance to rust, however, is not high.

Cucchetto has elliptically oval, light-green leaves that form a right angle at the point of attachment to the stalk, along which they are widely spaced. This variety is relatively susceptible to wind and hail damage as well as to rust. It is early maturing but, because it is difficult to care for, has almost disappeared.

When cured, Nostrano leaves are generally dark brown, but vary somewhat in intensity of color. The nicotine content is low, rarely exceeding 2.5 percent. The aroma is similar to that of Havana tobacco--not too aromatic, and the taste is slightly bitter. Nostrano burns well and forms a white, compact ash.

Cultivation

Seeding is done in February and transplanting takes place in June. The fields are well worked in March and given liberal applications of chemical fertilizers and manure or waste from silkworm raising. The plants are set relatively close together--from 20 to 24 inches apart--so that there are 12,000 to 16,000 plants per acre. About 2 weeks after the plants have been transplanted, hills are made around individual plants. The general practice is to top flowers as soon as they appear, although there is a recent tendency to delay this till later in the season.

Curing

The first step in curing consists of fermentation and yellowing. For this the matured leaves are taken to a dark, humid location where they remain for 8 days. The leaves are stacked in a vertical position on the ground so that they stand front to back with the leaf apex pointing up. Next, the leaves are exposed to the sun with the back of the leaf facing up; then they are hung, overlapping each other, on poles. This method permits the leaf to cure from the point to the base. After 45 days, leaves are completely brown and dry and are then bulked in small piles, under moderate pressure, for 20 to 30 days.

Because of the frequency of hailstorms in the area where Nostrano tobacco is grown, special curing methods are used for hail-damaged leaves, none of which are discarded. The broken leaves are stacked as described above, exposed to the sun for 7 hours, and then further dried much as the whole leaves are. The next day they are bulked in small piles and heavily stamped upon and pressed by the workers' feet. For the remainder of the day, they are exposed to the sun and then brought indoors to complete the drying. This method is applied to leaves with unbroken stems only. For those with broken stems and for leaf fragments, the process is slightly modified.

BRIGHT ITALIA FLUE-CURED

Bright Italia flue-cured tobacco was first cultivated in Italy in 1896 on the west coast of the peninsula in the Naples and Salerno areas. Early in the 20th century, production shifted to Lecce, where the first attempts at hybridization were made, and then to other areas throughout the country as various strains were developed.

Bright Italia (also generically referred to as Virginia or Virginia Bright) has continually increased in popularity. It is the only type that has steadily climbed in production, almost since prewar years, to the point where Italy is currently the largest west European producer of flue-cured Bright tobacco. It now constitutes about 18 percent of Italy's total annual production. The increase in demand for Bright leaf is primarily

due to a shift in consumer taste toward blended American-type cigarettes and away from straight Oriental blends.

About 75 percent of Bright Italia is grown in Umbria, where the soil does not have a high organic content and is generally composed of silaceous sandy soils.

Varieties

The original Bright Italia was a hybrid developed from crossing Herzegovina⁴ on American Virginia Bright, pollinating the latter. Subsequent extensive breeding work with Bright tobacco developed many varieties now available for numerous soil types and climatic conditions in Italy.

The Bright crop before World War II consisted principally of strains A, B, and No. 16, but mainly B. In the past these have been used in Oriental cigarette mixtures more to modify the taste of, than to substitute for, Oriental tobacco. However, the growing trend toward stronger American-type Virginia blends underlined the need in Italy for new strains. Although the older strains are still grown, they are rapidly being replaced by a series of numbered lines: 4, 5, 9, 16, 22, 28, 88. Nos. 16, 22, and 88 are considered among the most important. They vary from the original hybrids in greater ease of curing, larger percentage of high quality leaves, and slightly different cultural and climatic requirements, although the cured leaf is not noticeably different in appearance.

Market Characteristics

The Bright Italia plant, which often reaches a height of 78 inches, is cylindrical in shape and has light green, almost stemless leaves, which are sharply oval in shape, narrowing toward the base, and average 20 to 28 per plant.

When cured, the leaves are not very large; they are thin and fine in texture, and have characteristic variegated overtones. Good quality leaves have a caramelized sugar fragrance with a sweet flavor and low nicotine content.

Cultivation

Bright Italia generally follows wheat in rotation. Transplanting from coldframes to fields takes place in early spring at a rate of approximately 16,000 plants to the acre. The monopoly claims that this high number of plants per acre assures a finer, lighter leaf. Rather heavy irrigation is generally recommended in order to obtain better quality, lighter-bodied leaves. Topping is not a general practice.

Curing

After the leaves are threaded and hung from laths, they are placed 6 to 9 feet above the ground in heated barns. These barns average about 36 square yards in area and 24 feet in height. Two furnaces about 4 1/2 yards square are often used with coke or coal as fuel. Sheet-iron flues about 1 foot in diameter start at a dust chamber at the rear of the furnace and circle the room at about 3 feet above ground. Flues are enclosed in perforated terra cotta sleeves with drafts at the end of each flue. Humidity is regulated by spraying water on the warm terra cotta sleeves. Ventilation is controlled by a system of air intakes in the walls about 8 inches above the ground and by vents in the ceiling.

In large scale industrial curing, heating, ventilation, and humidity are controlled mechanically, and are broken down into four stages: yellowing, color fixation, leaf drying, and stem drying.

For yellowing, temperature is maintained for from 12 to 24 hours at 95° F. until a uniform yellow color is obtained;

For color fixation, temperature is raised sharply to 113° F., maintained there

⁴ See Semioriental tobacco.

for 6 hours, and then increased to 122° - 131° F. for 8 hours;

For leaf drying, temperature is raised again, at the rate of 3.5° every hour, until a maximum of 140° F. is reached;

For stem drying, when temperature reaches about 170° F., fires are lowered and then extinguished as fresh air is gradually admitted, bringing temperature down to 95° F.

After curing on the farm and in industrial establishments, the leaves are put into bundles (hands) of 18 to 20 according to the following relative color scale: brilliant yellow, golden yellow, lemon yellow, red yellow, mottled yellow, greenish, green, and brown. Bright leaves are graded commercially into four groups based on leaf development, quality of leaf, prominence of veining, color, odor, taste, etc.

MARYLAND LIGHT AIR-CURED

The use of Maryland tobacco in Italian products is comparatively new, dating back only to the beginning of the 20th century, and has always been relatively limited, although consumption has increased slightly in the past few years. The acreage of Maryland tobacco is smaller than that of any other type except that planted to blending, snuff, and nicotine tobacco. Most of the Maryland tobacco is grown in Campania and Lazio, where 76 and 22 percent, respectively, of total Maryland acreage is situated.

Varieties and Market Characteristics

The Italian type of Maryland is called Maryland Benincasa and was first developed in 1910 by crossing Maryland Broadleaf with Herzegovina, an Oriental variety. The resulting hybrid is a plant about 6 feet tall, which matures comparatively early, making possible complete air curing before the fall rains begin. The plant has from 18 to 20 light-green leaves about 16 inches long. The leaf has a slight droop near the tip but its base makes a sharp angle with the stalk, which results in a characteristic "stand up" appearance. The flower is red or red-rose, and the plant is almost completely resistant to black root rot.

When cured, Maryland Benincasa is almost totally lacking in surface gums and resin. The leaf is not elastic but burns excellently with a pronounced aroma, which the monopoly claims is not as strong as American Maryland. The taste is mild and the alkaloid content relatively low. The cured leaf is reddish brown with blurred yellow markings and resembles terra cotta in coloring.

Cultivation

The time for seeding is from mid-January to mid-February. Transplanting takes place from April to June. The usual practice is to apply rotted manure and limited quantities of phosphate fertilizer.

The number of plants in the field varies from 12,000 to 14,000 per acre. Plants are not topped, but are allowed to go to seed from which oil is later extracted.

Curing

Throughout Italy, Maryland tobacco is air cured. During the curing process, the leaves go through definite stages of yellowing, browning, and drying, and the stems are often slit lengthwise to hasten drying. The leaves are hung on nails driven in laths that are placed no more than two layers high in areas well protected from breezes. Jute netting or straw mats are used as windbreaks. After the yellowing period (2 to 3 days) the windbreaks are removed to permit exposure to the sun. When the leaves have completely softened and have begun to brown, they are brought on the laths to covered areas until drying is complete. Roughly 2 months are required for this curing process.

When the leaves are fully cured, the moisture content is generally no more than 18 percent. Leaves are tied into hands and packed in barrels for moderate fermenta-

TABLE 7.--Yield per acre of tobacco in Italy, by type, average 1936-39 and 1947-51, annual 1951 and 1952²

[In pounds per acre]

Type	Average 1936-39	Average 1947-51	1951	1952
Kentucky fire-cured-----	1,602	1,378	1,393	1,350
Semioriental-----	711	762	801	486
Beneventano dark air-cured-----	1,344	1,161	1,333	1,027
Nostrano dark air-cured-----	1,522	1,540	1,687	1,405
Bright Italia flue-cured-----	2,000	1,963	1,935	1,717
Maryland light air-cured-----	2,833	2,600	2,579	2,263
Burley light air-cured-----	2,190	2,283	2,259	2,113
Subtropical dark air-cured-----	1,778	1,515	1,551	1,372
Blending dark air-cured-----	1,250	2,000	(²)	(²)
Snuff and nicotine tobacco-----	(³)	1,500	1,333	1,667
All varieties-----	1,177	1,179	1,233	1,027

¹ Farm-sales weight.

² Insignificant.

³ Not available.

Source: Italian State Tobacco Monopoly and Foreign Agricultural Service.

tion; moisture content is maintained at from 16 to 18 percent. Maryland leaf is not considered ready for manufacturing until 2 years after it has been harvested.

In the Salerno area, the curing process for Maryland is similar to that for Oriental tobacco. After curing, the leaves are bulked in silos, which are constructed with porous walls; this, it is claimed, greatly increases the commercial value of the leaves. (In the discussion on curing Kentucky leaf this treatment is described in detail.)

BURLEY LIGHT AIR-CURED

White Burley was first brought to the Campania region of Italy from the United States in 1891, after which its cultivation spread rapidly throughout the country. In the early 1900's, demand for Burley leaf declined considerably and cultivation was suspended until 1925 when it was thought that cigarettes brought to Europe by American troops during the First World War had shifted consumer tastes to Burley and to Virginia tobacco. The monopoly then introduced several brands of cigarettes containing appreciable amounts of this tobacco and they caught on rapidly. Since then, several new Burley hybrids have been successfully introduced.

Burley tobacco is used almost exclusively for cigarettes, and most of it is presently grown in Lombardy and Campania, where roughly 39 and 32 percent, respectively, of total Burley acreage is located. The remainder is found principally in Umbria, Marche, Emilia, and Piedmont. Burley grown in Campania is used primarily for blending with Oriental leaf in cased mixtures, while that grown in the north, especially in Piedmont and Lombardy, is used in heavily flavored American-style products.

Varieties and Market Characteristics

Italy has developed, after many crosses, two principal varieties of Burley that the trade feels are admirably adapted to current market requirements.

The first is High Yield Burley (Burley di Gran Reddito) in strains A and B. This variety was developed from an original cross of Kentucky Giant No. 1 with White Burley

Drooping Leaf. The leaves of this variety are very close together and form a sharp angle with the petiole. They are about 24 inches long, and a typical Burley yellow color. The plant is average in resistance to black root rot and requires light fertile soils rich in potash. High Yield Burley is a relatively heavy producer--from 2,677 to 3,569 pounds of dry leaf per acre. The cured leaf is straw colored, without gums or resin.

The second variety is Burley Giuseppina, which was developed from crossing Burley Drooping Leaf with an Oriental tobacco. Burley Giuseppina is highly resistant to black root rot, but is not exceptionally high yielding. The stem is very weak and carries only 15 to 20 leaves, which are about 20 inches long and bent (drooped) slightly at the tip. This variety is early maturing, requires approximately the same growing conditions as High Yield Burley, and is the principal variety of Burley grown in Italy. It has excellent burning qualities and is classed as a medium-strong tobacco.

When cured, Burley leaves in general are sharply oval, large, and pointed at the end. They are silky and smooth, and the color is generally light brown tending toward yellow. Leaves are spongy and porous enabling them to absorb sauces and flavoring materials quite well. The taste is almost neutral, combustibility good, and nicotine content low.

Cultivation

Cultivation practices for Burley are the same as those for Kentucky and Maryland Benincasa. The monopoly recommends about 265 pounds of superphosphate per acre plus some nitrogen. Experience shows that good results are obtained by plowing under well-manured red clover at the time of seeding. The curing process is similar to that for Maryland tobacco.

SUBTROPICAL AIR-CURED

The Subtropical air-cured type of tobacco was first brought to Italy during the early 1930's. Under this heading Italy includes a number of varieties⁵ but Root-Rot Resistant Havana No. 142 is the most widely grown. In Italy, the Resistant No. 142 plant is conical in shape with 20 to 22 elliptically oval leaves attached to the stalk in a semierect position. The leaf tissue is relatively fine with inconspicuous veining and the flower cluster is very spread out with little light-rose flowers on a large calyx. Resistant No. 142 is grown mostly in Veneto and Venezia Tridentina, which produce 77 and 12 percent, respectively, of total output of this type of tobacco.

Varieties and Market Characteristics

Because of the need for a lighter, less aromatic leaf to be used as cigar wrapper, the Istituto Scientifico Sperimentale per i Tabacchi developed two new strains of Resistant No. 142, one by crossing Resistant No. 142 with Big Cuban, called Resistente Italia, and the other by selection, called Resistente 945. Both mature early and are good producers. They are only slightly aromatic, burn excellently, and are reportedly ideal for wrapper leaf. Production of these two new strains, however, is still relatively insignificant.

When cured, Resistant No. 142 has in Italy a good reputation for its relatively fine leaf tissue, good color, aroma, and burning qualities. The leaves are big and the top side of the leaf is light brown while the lower has gray-green overtones when cured properly. Nicotine content averages around 2 percent.

Resistant No. 142 is used for wrapper, binder, and filler for non-Italian type cigars, for some brands of cigarettes, and for smoking tobacco.

Cultivation

Seeding is generally done in the early spring and transplanting during the latter

⁵ See Appendix.

part of April and the first few days of May. The monopoly recommends substantial applications of well rotted manure at transplanting time, plus superphosphate and potash at a 2:1.5 ratio during soil preparation. Planting is at the relatively heavy rate of 14,000 plants per acre. The general practice is to top and sucker often. Italian growers recommend overhead spray irrigation where possible.⁶

The harvest is usually begun during the first part of August, when the leaf is silky and elastic and characteristically mouse colored with green overtones.

Curing

Immediately after picking, the leaves are threaded on strings and hung on poles in ventilated barns, where they are allowed to wilt. Yellowing is a comparatively slow process for Subtropical tobaccos. When browning begins, the humidity and temperature in the curing barns are reduced by opening ventilators.

Before fermentation, particular attention is paid to grading by size of leaf and degree of ripeness. Leaves to be used for wrappers are fermented separately. While the leaves are in piles, the temperature is allowed to rise to about 122° F. The leaves are rebulked about three times, each time bringing the outer ones to the inside and putting on the bottom of the pile those that were originally at the top.

The monopoly recommends that this type of tobacco be cured in silos (see curing of Kentucky leaf), after it has been moistened with superheated steam and dried.

BRAZILIAN SUBTROPICAL TYPES

Two Brazilian Subtropical types of tobacco are grown in Italy--Goiano and Brasile del Grappa, or Bahia. Because of their relatively lesser importance, it was thought advisable to comment only briefly on their market characteristics.

There are two varieties of Goiano--Goiano Virgem and Goiano de Cheiro. The first has a light leaf that is slightly puffy in appearance. The second has lance-shaped leaves.

Goiano is a lightly perfumed, elastic tobacco with excellent burning qualities and a mild aroma. The cured leaf, nut-colored with gray-green variegations, is about 15 inches long, fine-textured, and elastic, with rather small veinings.

The finer leaves are used for wrapper and binder; others are used in dark cigarette tobacco.

The cured leaf of Brasile del Grappa is fine textured with a yellow light-brown color. It has an agreeable odor and burns with an aroma similar to Havana-type leaf. Its chief uses are for the manufacture of cigarettes and for cigar binder.

BLENDING DARK AIR-CURED

Varieties

Several varieties of blending tobaccos have been grown in Italy for at least 200 years. The principal varieties used for blending are:

Cattaro, a hybrid produced from a cross of Lancifolia x Brasiliensis x Havanensis.⁷ The plants range up to 7 1/2 feet in height and have about 40 narrow, oblong, pointed leaves that are rather thick and have prominent veining.

Moro di Cori, the result of crossing Fruticosa with Macrophylla and Havanensis. The monopoly claims that the latter two varieties give Moro its agreeable aroma and mild taste. These plants average 5 feet in height and bear from 20 to 25 thick, coarse-

⁶ Use of this method of irrigation for tobacco and other crops is spreading rapidly in Italy. Important reasons for its growing acceptance are low cost relative to increased yields, and the convenience of aluminum tubing with quick-coupling, semiuniversal joints. No data are available yet on tobacco yields under this method of irrigation, but the possibilities can be estimated by the report on alfalfa: It is not unusual for alfalfa growers to get five cuttings a year with spray irrigation compared to only two or three under previous methods.

⁷ According to Comes' classification.

textured leaves. The leaves are broadly oval and more or less heart shaped.

Secco di Sardegna, probably the result of crossing *Brasiliensis* *Havanensis* x *Macrophylla*. It is a heavy plant, conical in shape with a strong, thick stalk averaging 3 to 3 1/2 feet tall. Plants generally bear about 18 leaves, which are smooth textured and bright green and tend to fold backward along the stem. The leaf is a very pointed long oval with a moderately prominent stem.

Spagnuolo, also probably a cross between *Brasiliensis* x *Havanensis* x *Macrophylla*, but mostly resembles Havana-type tobacco. The leaves are long oval and very pointed. The bottom leaves are similar to Havana-type tobacco and the remaining leaves strongly resemble Brazilian tobacco.

Market Characteristics

Most of the blending varieties are produced in the area around Rome, and are used primarily in cigarette blends and pipe mixtures. However, they are sometimes used in the manufacture of snuff. Because from a production standpoint blending tobaccos are relatively unimportant, their market characteristics are only briefly outlined below.

Cattaro. The tissue of the cured leaf of Cattaro is very heavy and thick, and the stem and veining are prominent. The leaf is about 30 inches long and is light brown with yellow and green markings. Its alkaloid content rarely exceeds 5.5 percent.

Moro di Cori. The leaves of Moro di Cori, when cured, are about 20 inches long and 16 inches wide. The tissue is thick and the prominent leaf veins do not burn well. Fermentation gives the leaf a dark brown color. The alkaloid content on a dry weight basis is about 5 percent.

Secco di Sardegna. The cured leaf of Secco di Sardegna is comparatively small and yellow red with vague green mottling. The stem is hard and woody and rather whitish in color. The aroma is considered good and burning qualities average. The leaf tissue is only slightly elastic and rather dry and tends toward toughness. The nicotine content averages 4 1/2 percent.

Spagnuolo. The cured leaf of Spagnuolo is gummy, heavy, and thick and has a very prominent stem and veins. The color should be light brown tending toward red brown or yellow, with some green spots. Spagnuolo does not burn too well, and its nicotine content is relatively high.

SNUFF AND NICOTINE TOBACCO

Snuff and nicotine tobacco is relatively unimportant in the Italian tobacco industry. Average annual production of snuff is only about 1.3 million pounds and production of nicotine and the output of other tobacco byproducts is similarly insignificant. The more important varieties in this group are discussed briefly below.

Varieties

Spadone di Chiaravalle was brought to Italy from Brazil in 1556 and was later crossed with a Havana-type plant to produce the present Spadone. The plant is almost cylindrical, and the leaves are light green, relatively large, long, and pointed at the tip. The leaf surface is smooth and the stem is quite large. The plants are roughly 6 feet tall and, when fully developed, bear from 20 to 25 dark-green leaves.

Erbasanta, as well as the following two, are the only varieties belonging to the species *N. rustica*. The plant is about 3 feet tall with large, round, dark-green leaves on a thick, heavy stem.

Brasile Leccese has leaves that are more oval than oblong with a rounded tip and long petiole. The stalk is thick, hairy to the touch, and rubbery. Average height of the plant is 3 feet.

Brasile Selvaggio differs from the preceding two only in that the leaf is smaller and more rounded, and that the leaf tissue is not as fleshy and thick.

Market Characteristics

Spadone di Chiaravalle is both a yellow and a brown type. Curing gives the leaf various colors ranging from a dark brown to yellow, gold, or straw. When cured, the leaves are thick, spongy and gummy, with comparatively large veining. They burn rather poorly and are used principally for the manufacture of snuff. Nicotine content is less than 5 percent.

Erbasanta is primarily a snuff tobacco, but the stems and scraps are used for nicotine extraction. For strong and for mild snuffs, the leaf is so prepared as to produce different characteristics. For strong snuff the leaf is spongy and exceptionally elastic. It is yellow brown and has a sharp odor, almost like ammonia. For mild snuff the leaf is heavier and light brown and has a mild, agreeable odor. Erbasanta has a high nicotine content--around 8 percent.

Brasile Leccese is also a snuff tobacco and its stems and scraps are used for the extraction of nicotine. The leaves of Brasile Leccese are spongier than those of Erbasanta and their color is yellow, tending toward green. Nicotine content reaches 10 percent and the odor is somewhat similar to acid-alcohol.

Brasile Selvaggio is used principally for nicotine extraction. When cured, Brasile Selvaggio is a typical dark-green leaf, which is paler in poorer quality leaves. Selvaggio is a much heavier, fleshier leaf than those of the preceding two varieties. The odor is strongly alcoholic. Nicotine content runs to about 8 percent.

FACTORS AFFECTING PRODUCTION

TOPOGRAPHY

The 708-mile-long peninsula of Italy juts out from southern Europe into the Mediterranean Sea in a latitude comparable to that of the eastern seaboard of the United States between Maine and southern Virginia. Almost 80 percent of the country is less than 65 miles from the sea.

Well over 90 percent--69 million acres--is in farms and forests; 38 percent of this land is mountainous, 41 percent hilly, and 21 percent flat.

The natural configuration of Italy divides the country into three parts--continental, peninsular, and insular.

Insular Italy is made up of the islands of Sicily and Sardinia and a number of smaller ones--the Pantellerias, Liparis, Ponza, Ischia, and others. Tobacco is not an important crop on these islands. Only a small amount of snuff and nicotine tobacco and some Oriental leaf are produced in Sicily and Sardinia.

Continental Italy is in the north, separated from the rest of Europe by the Alps, which form Italy's main watershed. In this area is the Po Valley, a highly fertile piedmont alluvial plain situated between the southern alpine slopes and the northern reaches of the Apennines. More than 30 percent of the country's raw leaf and roughly 50 percent of its Kentucky fire-cured tobacco is produced here. In fact, this plain accounts for 23 percent of the area given to tobacco production in Italy. The Po River more or less equally divides the valley and is fed by streams from both the Alps and Apennines.

The peninsula itself is composed almost wholly of the Apennine Mountains and foothills, which run down the "boot" of Italy in a southeasterly direction. Although they have no marked physical divisions, the Apennines are generally spoken of as the Northern, Central, and Southern Apennines. The latter two are in the tobacco growing areas of peninsular Italy; little or no tobacco is produced in the region of the Northern Apennines.

The Central Apennine area, which extends from Umbria and Marche to the Abruzzi, is rugged, composed of Cretaceous limestone outcroppings, and used mostly for mountain sheep and goat pastures and, here and there, for olive groves. In the valleys and mountainsides of Lazio, Umbria, and Marche, however, almost every variety of tobacco is grown. Umbria specializes in the flue-cured type; in fact, it produces most of Italy's flue-cured tobacco. And Abruzzi is almost wholly an Oriental producing area, growing about 8 percent of the total Oriental raw leaf output.

The Southern Apennines are generally divided into the Neapolitan and Calabrian ranges. The former is marked by outcroppings of older and consequently less rugged Triassic limestone. Here, in the Naples area, is another region of diversified tobacco types, with fire-cured and dark air-cured leaf predominating. The Calabrian Apennines are composed principally of the Sila Mountains, which consist generally of granite, gneiss, and crystalline schist formations. Almost all the rivers in the area are short and extremely rapid, exerting a severe erosive action on the valley floors year after year. Characteristic short but torrential rains momentarily fill riverbeds (normally dry in spring and summer) and do tremendous damage to the land. In this area, the only tobacco produced is Oriental leaf and that is produced in small quantities.

CLIMATE

Italy lies in the north temperate climate zone (high pressure area) of the mid-latitudes--30° to 50° N. Climatically as well as topographically the country is divided into three parts: continental, peninsular, and insular.

The continental zone includes the Po Valley and all of the Italian Alps. In the Alpine area, which has an elevation of over 6,500 feet, temperatures reach a mean low of -2° F. and rainfall is at least 51 1/2 inches. Relative humidity here is high during the cold weather, and snow lasts from November to March. From April to October there are frequent storms, often with hail. These are not favorable conditions for growing tobacco and, consequently, only an insignificant amount is grown in the area.

The Po Valley, on the other hand, is a relatively important tobacco area. Most of the Kentucky and air-cured leaf, as well as substantial amounts of cigar-type tobacco, is grown in the Po Valley and adjacent plain areas. Here, the average January temperature is 32° F., and July temperatures range from 72° F. to 77° F. Average annual precipitation is from 31 to 40 inches. Generally speaking, the Po Valley has severe winters, hot sultry summers, and high humidity due to large areas of surface water. Near Venice, where most of the Nostrano tobacco is grown, winter temperatures are mild because of the moderating effect of the Adriatic Sea.

The peninsular zone lies roughly within latitudes 48° and 34° N. and includes the Apennine Mountains and the Adriatic, Tyrrhenian, Ionic-Tyrrhenian, and Ionic-Adriatic areas.

The Adriatic area has winter temperatures that are slightly higher than those in the Po Valley. January temperatures range from 36° F. to 43° F. Maximum rainfall is in the autumn.

Nine percent of the acreage sown to Semioriental tobacco and almost 7 percent of that sown to Kentucky are in the Adriatic area in Abruzzi and Emilia Romagna, respectively. Marche, also a part of this area, has small amounts of air-cured and flue-cured tobaccos.

The Tyrrhenian area extends as far south as the Gulf of Salerno. This area is warmer than the Adriatic coastal area. January temperatures range from 37° F. to 48° F. Maximum precipitation is in the fall but comparatively heavy rains also come in the spring. This is a production area of many tobacco varieties. The colder temperatures toward the north Tyrrhenian area appear to favor Kentucky tobacco. As the climate grows milder toward Rome and Naples, production of light and dark air-cured and Semioriental tobacco predominates; however, this is not a concentrated tobacco producing area as is the continental zone or parts of the Adriatic coastal area.

The Ionic-Tyrrhenian area produces almost no tobacco, but the Ionic-Adriatic area is the most important Semioriental tobacco area. Here, January temperatures range from 37° F. to 52° F. and summer temperatures from 70° F. to 79° F. Maximum rainfall is little more than 34 inches. There are a number of locations with from 17 to 22 inches. Rains are more prevalent in the late fall than in spring.

The climate of insular Italy is favorable for the production of snuff and nicotine tobacco, but only small quantities of these are grown. The climate is generally warm, except for the high mountainous areas. Rains are generally scarce. The government has had substantial success in recent attempts at flood control, and land improvement and irrigation on the southern Sicilian plain, but much of inland Sicily still remains rocky, rugged, barren and relatively unproductive.

ITALY: TOPOGRAPHY



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FOREIGN AGRICULTURAL SERVICE

Much of Italy's tobacco is grown in the hills and mountains, which cover about three-fourths of the country.

ITALY: SOILS



The alluvial soils of the Po River Valley of northern Italy produce about a third of the country's tobacco.

TABLE 8.—Average temperatures at selected stations in Italy¹

Station	Altitude	Annual	Coldest month	Hottest month	Minimum coldest month	Maximum hottest month
	<i>Feet</i>	<i>°F</i>	<i>°F</i>	<i>°F</i>	<i>°F</i>	<i>°F</i>
Alessandria.....	290	53.1	32.9	74.7	38.7	85.1
Ancona (Monte Cappuc.)..	317	57.4	40.3	75.4	36.0	80.2
Anzio.....	30	60.1	45.0	74.1	39.6	79.7
Aquila degli Abruzzi....	2,241	53.8	32.9	73.4	42.8	90.9
Ascoli Piceno.....	503	58.5	41.2	75.4	34.5	88.2
Bari.....	61	61.3	46.0	76.8	40.6	84.7
Benevento.....	518	59.2	41.9	76.6	34.5	90.5
Bergamo.....	1,116	54.3	34.7	74.1	33.1	80.4
Bologna.....	168	57.6	35.1	78.8	32.5	86.4
Bolzano.....	872	54.1	32.9	73.8	36.5	82.8
Brescia.....	457	56.5	34.7	77.9	35.2	88.2
Caltanissetta.....	1,738	60.1	44.1	77.5	39.4	86.9
Campobasso.....	2,143	55.6	37.2	73.2	32.4	84.6
Caserta.....	232	61.9	45.7	78.8	39.0	90.1
Catanzaro.....	991	61.0	45.3	77.2	39.6	86.5
Cosenza.....	780	63.0	44.6	80.6	35.6	93.6
Cremona.....	143	53.8	32.0	75.2	(²)	(²)
Cuneo.....	1,634	53.2	33.8	72.5	35.8	81.0
Ferrara.....	46	55.2	32.5	76.3	35.8	84.6
Firenze.....	152	58.6	40.3	77.0	33.8	88.7
Foggia.....	265	61.5	43.0	80.4	35.9	91.0
Lecce.....	238	63.7	46.8	78.3	36.5	89.8
Maccarese.....	12	60.1	40.1	81.5	34.2	90.5
Mantova.....	61	55.9	32.0	77.2	37.4	86.4
Milano.....	369	55.9	34.3	76.5	34.7	86.9
Modena.....	107	55.9	33.3	77.0	35.4	85.5
Napoli.....	454	61.5	46.2	77.5	41.9	85.3
Novara.....	500	54.5	35.1	75.6	35.8	87.6
Padova.....	43	55.0	33.6	74.5	37.4	86.4
Pavia.....	235	53.4	32.7	73.4	36.3	88.7
Perugia.....	1,503	55.0	37.4	73.9	32.5	84.0
Pisa.....	12	59.4	43.3	74.8	34.5	86.4
Pistoia.....	198	57.7	39.4	75.6	32.2	89.1
Potenza.....	2,518	54.5	37.0	72.1	32.5	83.7
Ravello.....	960	59.0	43.7	76.3	38.3	88.7
Roma.....	155	61.0	44.2	78.6	36.7	89.4
Rovigo.....	70	55.6	33.4	75.9	35.4	86.2
Salerno.....	122	63.5	48.2	78.1	42.4	88.3
Siena.....	1,061	57.6	38.3	76.6	* 33.1	86.4
Taranto.....	46	63.5	47.8	79.7	42.6	86.9
Teramo.....	878	58.6	39.0	78.4	34.0	89.4
Trapani.....	82	64.4	51.1	78.6	43.7	86.0
Trento.....	942	52.7	32.4	71.8	37.0	83.8
Treviso.....	46	55.9	35.2	75.6	34.2	84.7
Venezia.....	9	56.3	36.7	74.8	32.2	82.4
Vercelli.....	396	55.0	34.7	75.2	35.6	86.0
Verona.....	201	57.2	36.5	77.0	(²)	(²)
Vicenza.....	165	55.8	35.2	75.6	34.0	83.7
Viterbo.....	997	58.5	40.3	76.6	34.3	88.0
Volterra.....	1,634	54.5	37.4	72.9	32.9	80.8

¹ For 8 years.² Not available.

Source: De Philippis, Alessandro, "Classificazioni ed Indici del Clima in Rapporto alla Vegetazione Forestale Italiana," Tipografia Mariano Ricci, Firenze, 1937, pp. 112-131.

TABLE 9.—Average precipitation at selected stations in Italy¹

[In inches]

Station	Winter	Spring	Summer	Fall	Annual
Alessandria.....	5.3	6.5	3.4	7.2	22.4
Ancona (Monte Cappuc.)..	9.8	5.3	5.4	10.2	30.3
Anzio.....	16.3	8.7	1.2	14.8	40.9
Aquila degli Abruzzi....	7.5	7.6	4.5	9.3	28.9
Ascoli Piceno.....	9.4	7.2	5.5	7.8	29.9
Bari.....	5.7	4.8	3.0	10.3	23.8
Benevento.....	7.8	6.5	3.5	9.1	26.9
Bergamo.....	8.4	6.7	10.6	14.7	50.4
Bologna.....	6.2	5.7	3.0	6.9	21.7
Bolzano.....	3.1	6.9	8.6	8.3	26.9
Brescia.....	6.5	9.9	7.3	8.8	32.5
Caltanisseta.....	8.8	4.5	.9	5.8	20.0
Campobasso.....	9.7	7.6	5.4	10.1	32.9
Caserta.....	13.6	10.5	3.9	13.3	41.3
Catanzaro.....	16.4	8.4	2.4	11.1	38.3
Cosenza.....	17.2	10.2	2.8	10.9	41.1
Cremona.....	(²)	(²)	(²)	(²)	29.1
Cuneo.....	8.2	13.0	6.2	9.8	37.1
Ferrara.....	4.9	5.5	4.5	5.7	20.6
Firenze.....	7.9	7.9	4.6	10.1	30.3
Foggia.....	4.9	4.4	3.3	6.1	18.8
Lecce.....	9.1	4.8	2.2	8.2	24.3
Maccarese.....	9.0	5.4	1.3	10.4	26.1
Mantova.....	5.2	6.7	4.9	6.0	22.8
Milano.....	7.4	8.8	6.8	9.1	33.4
Modena.....	5.6	6.4	3.5	7.6	23.0
Napoli.....	10.9	6.8	2.8	11.2	31.7
Novara.....	7.7	11.5	6.1	9.7	35.1
Padova.....	7.0	9.9	7.4	9.0	33.3
Pavia.....	6.9	8.5	5.5	8.1	29.0
Perugia.....	8.1	10.2	5.0	11.1	34.4
Pisa.....	11.7	10.3	3.6	12.8	38.5
Pistoia.....	13.5	12.8	4.3	13.5	44.1
Potenza.....	13.4	9.6	5.2	10.9	39.2
Ravello.....	24.8	13.5	2.7	18.6	59.6
Roma.....	10.0	7.8	2.6	12.2	32.6
Rovigo.....	5.1	7.0	5.0	6.6	23.7
Salerno.....	17.6	12.4	3.4	18.9	52.4
Siena.....	8.9	8.2	3.6	11.9	32.6
Taranto.....	6.8	3.9	1.9	5.1	17.6
Teramo.....	10.5	8.1	7.6	9.1	35.2
Trapani.....	8.0	3.1	.8	6.1	18.0
Trento.....	4.8	10.1	9.7	10.9	35.6
Treviso.....	6.5	11.4	9.4	9.1	36.4
Venezia.....	7.0	8.2	6.6	9.4	31.2
Vercelli.....	7.3	11.1	5.0	8.9	32.3
Verona.....	(²)	(²)	(²)	(²)	29.1
Vicenza.....	8.4	12.0	8.1	10.6	39.2
Viterbo.....	10.3	10.8	3.7	9.9	34.7
Volterra.....	18.1	17.9	7.8	18.2	62.0

¹ For 8 years.² Not available.

Source: De Philippis, Alessandro, "Classificazioni ed Indici del Clima in Rapporto alla Vegetazione Forestale Italiana," Tipografia Mariano Ricci, Firenze, 1937, pp. 112-131.

SOIL

There are several types of residual and alluvial soils in Italy. In order of relative importance, the residual soils having agricultural value are these:

1. Rocky and sandy limestone soils found in lower mountain elevations and in some plains, gray in color and lacking nitrogen, phosphate, and lime. Some of the residual soils (in Apulia) are also red; they lack the same elements, are formed mostly of clay, and are derived from decomposition of calcareous rock. These soils are low in productivity, difficult to work, and not well suited to tobacco.

2. Heavy, gray, gravelly, limestone clays found in the lower elevations of the Apennines and in Sicily. These are crumbly soils of low fertility often lacking lime; where clay is abundant, they have poor drainage. These, too, are not favorable to tobacco soils.

3. Loose pebbly soils formed from decomposition of limestone, clay, and coarse sand, and often found as an alkaline, sandy clay. These soils are mostly below 1,500-foot elevation around the foot of the Apennines and the Adriatic and Ionian hills. They are extremely friable soils and whenever they are not too steep and exposed to weather are fairly productive and contain good amounts of organic material and nitrates, phosphates, and potassium. Above 1,500 feet, these soils tend to be poor and better adapted to pasture. Most Semioriental tobacco is grown on these soils.

4. Volcanic soils found in the Apennine piedmont in the Tyrrhenian coastal areas of Lazio and Campania, east Sicily, northwest Sardinia, in the Vulture area of Lucania, and in other smaller areas. Depending on the weathering to which they are exposed, these soils are acid, light, easily decomposed, and lacking in lime and iron, or are basic, dark, and varying in other characteristics. Where they are not situated on steep slopes, they are very fertile, contain fairly large amounts of potassium, and are usually supplied by underground water. The best agricultural soils found in the Catania and Naples plain areas have been washed down from higher elevations, and have absorbed notable quantities of calcium. As a result of this and water absorption, they are very fertile and produce most of the Kentucky, Semioriental, Virginia, Maryland, and Burley tobaccos grown in Lazio.

Although alluvial soils are relatively limited in Italy, they are the better agricultural soils and are generally friable, fairly level, well drained, and usually fertile. Alluvial soils are found in morainic deposits and in river valleys throughout the peninsula and islands. Morainic deposits are generally fertile clays or limestone clays, gray or yellow gray, and pebbly or sandy, varying from one area to another. The Po Valley, like the fringes of the coastal areas, is entirely an alluvial soil area.

FERTILIZER PRACTICES

Because Italian soils as a whole are not fertile, substantial applications of fertilizers are necessary, not only for tobacco but for other crops as well. Organic fertilizers are fully utilized although losses from leaching of manure piles are probably high. The use of liquid organic fertilizers in conjunction with irrigation systems is steadily expanding, and, recently, there have been several successful experiments using "black water," or kitchen and other waste waters, for irrigation purposes in the Milan area. Proponents of this system claim that "black water" contains valuable trace elements and that where it has been used increased yields confirm its value to agriculture in general.

Use of the chemical fertilizers, nitrogen and phosphate, has expanded during the postwar period, but consumption of potash has increased only slightly over the past 15 years, and Italian agronomists claim that there is little need for this element in most Italian soils.

DISEASES AND INSECTS⁸

Many tobacco diseases are present in Italy, including some that were unknown prior to the introduction of American tobacco varieties and some that are unknown or of little importance in the United States. Generally speaking, virus diseases are the

most damaging in Italy. Weather damage and difficulties caused by certain unfavorable soil conditions are also important.

Leaf diseases in the field:

Powdery Mildew:

Pathogen: Erysiphe cidoracearum, D. C.

Powdery mildew is the most widely distributed tobacco disease caused by fungi and at times results in serious damage. Most varieties are susceptible to this disease, but in varying degrees. The following varieties are listed in order of increasing resistance:

Semioriental, Kentucky, Resistant 142, Maryland, Bright, and High-Yield Burley.

Brown Spot:

Pathogen: Alternaria longipes, E. and E.

Brown spot was first noticed on Kentucky tobacco in central Italy and is rarely serious.

Frog Eye:

Pathogen: Cercospora nicotianae, E. and E.

Frog eye is well distributed throughout Italy, but rarely causes significant damage. It can be spread on seed. Silver nitrate is recommended for seed treatment.

Phyllosticta Leaf Spot:

Pathogen: Phyllosticta nicotianae, Pass.

Gray Mold:

Pathogen: Botrytis cinerea, Fr.

Phyllosticta leaf spot and gray mold, in addition to a fungus leaf spot caused by Ascochyta nicotianae, Pass. are found in North and Central Italy, but are comparatively rare and cause little damage.

Red Rust:

Pathogen: Uredo nicotianae, Anast.

This true red rust has been found only once in Italy, at the old Scafati Experimental Institute in 1911. The only infected plants were seedlings of N. quadri-
valis and N. silvestris.

Sooty Mold, or Fumaggine:

Pathogen: Fumago vagans, Pers.

Sooty mold is fairly common and is found on most parts of the plant.

Wildfire, or Ryaboukha:

Pathogen: Phytophthora tabaci, W.

Wildfire is the most widespread and damaging bacterial tobacco disease in Italy. It has been known there for more than 50 years and usually infects Nostrano del Brenta, Kentucky, and Burley tobaccos in North Italy.

White Speck:

Pathogen: Aplanobacter maculicula, Delacr.

White speck is not a very damaging disease. It is found mostly in Lecce, and to a lesser degree in Trentino Alto Adige, Vicenza, and Verona.

Wisconsin Bacterial Leaf Spot:

Pathogen: Bacterium malleum, Johnson

This leaf spot is relatively insignificant and is largely confined to the area around Bolzano.

Plant bed diseases:

Damping-Off, or Stem Burn:

Pathogen: Pythium Debaryanum, Hesse

Olpidium Seedling Blight:

Pathogen: Olpidiaster racicis, De Willd

Sore Shin, or Sore Shank:

⁸ Based to a large extent on information contained in the Italian national report to the World Tobacco Conference, Amsterdam, 1951.

Pathogen: Rhizoctonia solani, Kuhn

These three diseases are extremely widespread in seedbeds throughout Italy, and cause considerable damage. Wildfire and Wisconsin Bacterial Leaf Spot, both mentioned above, also cause measurable damage in seedbeds.

Stalk and root diseases:

Fusarium Wilt:

Pathogen: Fusarium oxysporum (Schlecht.) Wr. var. nicotianae Johnson

Fusarium wilt appears more frequently in Italy when tobacco is not rotated or when it follows potatoes.

Black Root Rot:

Pathogen: Thielavia basicola, Zopf.

Black root rot is presently one of the most dangerous diseases in Italy, particularly when many new susceptible foreign varieties are being imported for experimental purposes.

Sclerotium Blight, or Stem Rot:

Pathogen: Sclerotium Rolfsii

Sclerotinia Disease:

Pathogen: Sclerotinia sclerotiorum, Lib.

Both diseases are moderately common throughout the country, but are not serious.

Tobacco Wilt:

Pathogen: Bacterium solanacearum, E. F. Smith

This wilt was first found on Kentucky tobacco in the Province of Verona in 1932, and on N. rustica around Naples in 1935. It is relatively unimportant.

Crown Gall:

Pathogen: Bacterium tumefaciens, Smith and Town

Crown gall appears to be endemic around the Naples and Salerno areas.

Soft Rot Disease:

Pathogen: Bacillus carotovorus, L. R. Jones

Soft rot was first found on N. rustica in the Salerno area. The Scientific Experimental Institute for Tobacco (Istituto Scientifico Sperimentale Per I Tabacchi) is currently carrying on a series of experiments on this disease, ring spot, and angular leaf spot.

Fermentation and storage decays:

Various rots, molds, and mustiness caused by such pathogens as Aspergillus glaucus, Penicillium crustaceum, and Cladosporium herbarum are present on tobacco in Italy but not much is known regarding their prevention. Studies are underway with regard to the susceptibility to decay of all varieties of tobacco grown in Italy.

Virus diseases:

Tobacco mosaic is universally present in Italy and damage from it varies from year to year. Ring spot is found on American strains and is also widespread but not too damaging. Vein banding is present, especially on Kentucky tobacco in Central Italy, but is relatively unimportant.

Injuries associated with weather and soil conditions:

In this group are found wet weather spot, drought spot, deformed leaves, marbling, and such malnutritional diseases associated with weather conditions as sand drown, or magnesium deficiency, and top disease, attributed to a deficiency of boron. All are relatively common.

Diseases due to unknown causes:

Frenching, which results in chlorotic young leaves and thickening in older leaves, is one of the most damaging diseases of Italian tobacco. It is most prevalent on Oriental tobacco in the Salerno area and, to a lesser extent, on Burley tobacco in northern Italy. Another of lesser importance is green spot found principally on Oriental leaf but also on other varieties, particularly Virginia Bright.

Parasitic plants:

The most common of the parasitic plants of tobacco is broom-rape (Orobanch

ramosa L.) found generally throughout Italy. Damage from it is fairly extensive.

Injurious insects:

Springtails are particularly widespread and do considerable damage to young plants still in seedbeds, and to seeds in the process of germination.

Grasshoppers only rarely do any serious damage.

Crickets are moderately damaging and attack roots where they join the trunk of the plant.

Thrips are comparatively numerous on Oriental tobacco in southern Italy, and are sometimes vectors in the spreading of virus diseases.

Aphids and scale insects, especially the potato aphid and the green peach aphid, are present but in general do little damage. They are, however, a menace since they are carriers of virus diseases.

Cutworms, blackworms, army worms, loopers, corn ear worms and horn worms are all found in Italy. Cutworms and blackworms are often very damaging to young plants. Corn ear worm is very damaging to seed. Hornworms are normally not a serious menace but at times do cause notable damage.

Among the beetles, the wireworm and the flea beetle are undoubtedly the most damaging. Ground beetles are also present but do comparatively little damage.

Red spiders are found generally throughout Italy but are not too serious.

Nematodes have in the past done considerable damage; sometimes infestations are so bad that tobacco growing is abandoned in certain regions.

Slugs and snails are damaging principally to young plants.

The cigarette beetle and the tobacco moth each year cause tremendous damage to tobacco in warehouses.

STATE TOBACCO MONOPOLY

The role of the tobacco monopoly is briefly set forth in the following extract from Law No. 67 of January 31, 1929:

"The manufacture, preparation, importation and sale of tobacco and tobacco products are reserved to the state.

"The production, manufacture, preparation, importation and sale of tobacco substitutes are prohibited.

"The cultivation of tobacco is permitted only under conditions established by the law.

"The importation of tobacco by the State is exempt from customs duty."

In substance, all the processes of tobacco production--from production to processing to domestic commerce and foreign trade--is controlled by the State essentially for revenue purposes. Violations of the law that defines and regulates the monopoly are punishable in a court of law.

Cultivation of tobacco is permitted under four main types of franchise or license: Concessione per Manifesto, Concessione Speciale, Concessione per l'Esportazione and Concessione per l'Esperimentazione.

The first two are grouped under the Concessione per le Manifatture dello Stato franchise for growing tobacco for manufacture by state-owned factories:

(1) Concessione per Manifesto, under which the grower delivers raw leaves that have not been treated in any manner. This type of franchise is generally found in older, traditional tobacco-growing areas, particularly in the Benevento, Palermo, and Sassari areas, and has been granted either to holders of special concessions or to the monopoly; this type of franchise is nowhere nearly so important as it was before the war.

(2) Concessione Speciale, under which the grower delivers cured and/or fermented tobacco to the monopoly for manufacturing without further treatment. The holder of this type of franchise may also buy tobacco from growers at prices fixed by the monopoly for processing and subsequent delivery to the monopoly. This type of franchise is generally granted in order to put new areas into tobacco production and constitutes the principal system under which tobacco is grown today. To allow amortization of buildings and equipment, the franchise is valid for 6 years. About 85 percent of current plantings are controlled under this special license, and there is constant pressure for putting

additional acreage under it. In Florence and Verona, where special concession farms are the smallest, the average-size tobacco farm runs from 48 to 84 acres. In Bologna and Lecce, the average size is 141 acres, in Cava (Lombardy) and Benevento 247 acres, and in Rome and Perugia 282 and 339 acres, respectively. Large industrial tobacco farms are found throughout all regions except Florence and Verona.

The other types of franchise--Concessione per l'Esportazione and Concessione per l'Esperimentazione--permit production for export and experimentation, respectively. These licenses are given mostly to experienced growers with sufficient capital and with technicians who are able to carry on approved breeding programs and produce quality tobacco meeting prescribed government standards. Under the Concessione per l'Esportazione, the grower cultivates tobacco with the intent of selling it on the export market; but the practice is to sell through the Azienda Tabacchi Italiani, a collateral organ of the monopoly that acts as the government's export agent.

In addition to granting concessions for growing tobacco, the monopoly itself is permitted by law to grow tobacco and, in fact, is one of the largest growers in Italy. This has caused considerable dissension in the past between the Association of Italian Tobacco Growers and the monopoly.

Prices paid to growers by the monopoly are fixed for a 3-year period and announced in a legal decree published by the Ministry of Finance.

The following are prices paid by the monopoly during 1952-1954 for unmanufactured tobacco in bales. They apply only to the top grade for each type or variety:

<u>Type or variety¹</u>	<u>Price in dollars per 100 lbs.</u>
Semioriental:	
Xanti Yaká	127.73
Perustitza	101.42
Herzegovina, Porsucian, Samsun, and Trapisum.....	98.70
Kentucky fire-cured:	
1st category	48.63
2nd category.....	45.00
3rd category.....	36.29
4th category.....	34.11
Beneventano dark air-cured.....	32.30
Nostrano dark air-cured.....	37.74
Bright Italia flue-cured.....	55.63
Burley light air-cured	38.47
Maryland light air-cured	40.71
Subtropical fire-cured (including Resistant 142, Brasile del Grappa, Goiano, Hybrid No. 4, Round Tip, Big Cuban, Big Havana):	
1st category	59.51
2nd category.....	49.35
3rd category.....	42.82

¹ There are usually five grades for each type of tobacco except for Kentucky fire-cured and Big Havana Subtropical. These two have five and three categories of quality, respectively, each of which is further subdivided into five grades. Prices shown are for the first grade in each category.

Although the decree lists prices by grade for each variety, prices within varieties may be adjusted according to criteria listed in the decree. For example, a maximum 3-percent premium is authorized for tobacco delivered to monopoly warehouses that has a moisture content lower than that prescribed. For tobacco that has a higher moisture content, the price is accordingly reduced. The monopoly prescribes the following as optimum humidity for each variety:

	<u>Percent</u>
Kentucky fire-cured.....	16
Beneventano dark air-cured.....	16
Nostrano dark air-cured.....	18
Burley light air-cured.....	13
Maryland light air-cured	13
Bright Italia flue-cured.....	13
Semioriental	13
Subtropical fire-cured.....	16

Furthermore, premiums are authorized to encourage some methods of packing and the production of some varieties in specified areas.

MANUFACTURED PRODUCTS AND BYPRODUCTS

CIGARETTES

More than half--11 out of 21--of the brands of cigarettes sold by the monopoly are made with straight Oriental tobacco blends; 7 of them are considered high grade blends. In making available such a large number of brands of Oriental-type cigarettes and a range in quality, the monopoly is probably trying to increase demand for this type of tobacco, which represents an acute surplus problem. Nevertheless, none of these Oriental brands ranks among the four most popular in Italy. The three best sellers--and the cheapest in price--are made from dark leaf without flavoring.

Three of the brands sold by the monopoly are so-called American type and are manufactured almost entirely from blends of Virginia Bright, Burley, and Oriental leaf. This type of mixture is reportedly increasing in popularity. Three other brands are made from flavored blends containing dark air-cured Beneventano, Nostrano del Brenta, Resistant No. 142 leaf, Maryland B light air-cured, and others. With these flavored blends, the practice is to humidify, flavor, and perfume the mixture; then to toast and season it for a short time. The remaining brand is composed entirely of Virginia leaf treated with glycol.

Italy produces both round and oval cigarettes. High quality round cigarettes are 0.32 inch in diameter, and lower quality 0.31 inch. The diameters of oval cigarettes are 0.28, 0.33, 0.35, and 0.37 inch.

Tobacco blends for roll-your-own cigarettes, available in packages or boxes, are identical with that used in manufactured cigarettes; but lower quality, less costly leaf is used and the mixtures are comparatively weak in aroma and neutral in taste. The cut for light mixtures ranges from 4/10 to 7/10 mm. That for dark mixtures is coarser--about 5/10 mm.; and dark mixtures are toasted.

According to the monopoly, the following is the average nicotine content of cigarettes and cigars in Italy:

<u>Product</u>	<u>Nicotine content</u> <u>Percent--dry weight basis</u>
Cigarettes:	
Oriental type.....	0.80--1.10
American type	1.50--1.60
English type (Virginia)	1.50
Common dark	1.25--1.30
Cigars:	
Non-Italian type	1.50--2.10
Toscano	3.00--3.50 (and over)
Mild Toscano.....	1.50
Virginia	1.25--1.30

TABLE 10.--Area and production of tobacco for manufacture, by class and type of franchise, 1951

Class	Concessione per manifesto				Concessione speciale				Total	
	Area		Production		Area		Production		Area	Production
	1,000 acres	Per-cent	1,000 Pounds	Per-cent	1,000 acres	Per-cent	1,000 Pounds	Per-cent		
Light smoking tobacco.....	5,315	29	6,663	26.0	83,114	67	91,474	61	88,429	62
Dark smoking tobacco.....	12,399	68	18,050	70.0	40,547	33	57,918	38	52,946	37
Blending tobacco.....	30	(1)	10	(1)	.....	...	.....	...	30	(1)
Snuff tobacco.....	210	(1)	377	1.5	.....	...	.....	...	210	(1)
Nicotine tobacco.....	388	2	584	2.0	274	...	271	1	662	(1)
Total.....	18,342	100	25,684	100.0	123,935	100	149,663	100	142,277	100
									175,349	100

¹ Less than 1 percent.

Source: Istituto Centrale di Statistica, Bollettino Mensile di Statistica, October 1952.

TABLE 11.--Total sales of manufactured tobacco products in Italy, 1938-39 and 1947-48 to 1951-52

Fiscal year	Sales	Index
	<i>1,000 pounds</i>	
1938-39.....	64,068	100
1947-48.....	65,836	102
1948-49.....	79,355	123
1949-50.....	84,509	131
1950-51.....	85,555	133
1951-52.....	85,686	134

Source: Monopolio di Stato, Notiziario, May 1953.

TABLE 12.--Total production of manufactured tobacco in Italy, 1938-39 and 1947-48 to 1951-52

Fiscal year	Production	Index
	<i>1,000 pounds</i>	
1938-39.....	70,362	100
1947-48.....	72,017	102
1948-49.....	82,962	117
1949-50.....	86,188	122
1950-51.....	87,394	124
1951-52.....	90,856	129

Source: Monopolio di Stato, Notiziario, May 1953.

CIGARS AND LITTLE CIGARS

Non-Italian style cigars are made from imported Havana, Sumatra, Java, Brazil, and Mexican leaf plus Italian-grown Subtropical dark air-cured tobacco such as Resistant No. 142, Resistant Italia, Round Tip, and Big Cuban, and native dark air-cured Nostrano del Brenta. All cigars are hand made in Italy.

The Toscano cigar, for which demand is heaviest, is made from dark, heavy Kentucky leaf grown in Italy. Tobacco for these cigars is heavily fermented; the wrapper leaf is not. The tobacco is fermented by soaking it in water until the moisture content is around 50 percent and then piling it on wood platforms in lots of 3 to 4 tons. When the temperature in these piles rises to about 95° F., the piles are rebulked, allowing the temperature to rise again. This is done several times. When fermentation is completed, the tobacco is definitely alkaline in reaction.

One thousand Toscano cigars weigh from 13.25 to 13.80 pounds.

PIPE TOBACCO

Three general qualities of pipe tobacco are marketed. The first two, referred to as 1st Quality Strong and 2nd Quality Common, are mixtures of Kentucky fire-cured, dark air-cured Beneventano, Nostrano del Brenta, Secco di Sardegna, and Moro di Cori leaf, as well as dark and light scraps. Stems are used in second quality blends. The cut varies from 0.70 to 1.25 mm., and the mixtures are toasted and lightly fermented. High grade smoking tobacco is a blend of Oriental Herzegovina, dark air-cured Beneventano, Nostrano del Brenta, and Bright leaf, with the addition of glycol-treated Nostrano. These more expensive mixtures are flavored and toasted, and the cut ranges from 1.25 to 2.0 mm.

SNUFF

The production of snuff is an insignificant part of total production of manufactured tobacco, but three types are made: dry, with low moisture content, finely ground, and not fermented; sifted, not fermented, but flavored and perfumed; moist, very finely ground, and fermented until temperatures reaches 104° F. to 122° F.

BYPRODUCTS

The monopoly administers several plants that produce the following tobacco by-products: tobacco extract (5 percent), nicotine sulphate (50 percent on volume basis), monital (5 percent), soap (2 percent).

TABLE 13.--Tobacco consumption in Italy by product and by amount of domestic and foreign tobacco used, 1938 and 1947-52

[In million pounds]

Item	1938	1947	1948	1949	1950	1951	1952
Snuff and cut tobacco.....	14.2	13.3	11.8	12.6	12.6	12.6	12.4
Cigars and little cigars.....	10.6	6.3	5.3	5.5	5.5	5.4	5.2
Cigarettes.....	38.6	46.3	55.0	62.6	66.0	66.9	70.7
Total.....	63.4	65.9	72.6	81.4	84.5	85.5	88.8
Of which domestic.....	63.4	65.9	72.0	80.7	84.1	84.9	88.3
Of which imported.....	.....	.....	.6	.7	.4	.6	.5

Source: Istituto centrale di Statistica, Bollettino Mensile di Statistica.

The largest is a steam distillation plant in Sicily, which is capable of processing 6 to 7 tons of scraps and stems daily that yield a raw product graded at 80 percent. The same plant also turns out nicotine sulphate at a strength of 98 to 99 percent.

Italy's average annual production of 5-percent tobacco extract is 1.1 million pounds and that of 50-percent nicotine sulphate, 31,700 gallons.

CONSUMPTION

Perhaps the most striking development in the tobacco industry of Italy is the sharp increase in total and per capita consumption of tobacco that has taken place in

TABLE 14.--Consumption of manufactured tobacco in Italy, average 1934-35 to 1938-39 and 1946-47 to 1950-51, annual 1946-47 to 1950-51¹

Fiscal year	Per capita consumption	Index
Average:	pounds	
1934-35-1938-39.	1.3	100
1946-47-1950-51.	1.7	131
Annual:		
1946-47.....	1.4	108
1947-48.....	1.4	108
1948-49.....	1.9	146
1949-50.....	1.8	138
1950-51.....	1.8	138

TABLE 15.--Average monthly cigarette production in Italy, 1938-39 and 1947-48 to 1951-52

Fiscal year	Production	Index
	1,000 pounds	
1938-39.....	3,666	100
1947-48.....	4,217	115
1948-49.....	5,213	142
1949-50.....	5,492	150
1950-51.....	5,677	155
1951-52.....	5,957	162

Source: Monopolio di Stato, Notiziario, May 1953.

¹ Based on the following weights:
1 gram per cigarette, 5 grams per cigar,
and 2.5 grams per little cigar.

recent years.⁹ After World War II, total consumption of manufactured tobacco rose abruptly, until by 1952 it was 40 percent above 1938. Per capita consumption of manufactured tobacco by 1950-51 was 1.8 pounds, or 38 percent more than the 5-year prewar average, but still considerably below the 9.3 pounds in the United States in the same year.

A contributing factor to the increase in total consumption, though not a major one, is the rise in Italy's population. From 1937 to 1950, total population increased by about 4 million persons, or roughly 10 percent. Had per capita consumption remained at an average 1.5 pounds for that period, total consumption would have increased by about 6 million pounds, to about 67 million pounds. Actually, consumption in 1950 totaled more than 85 million pounds, pointing up the greater significance of other factors.

Apparently, a good part of the increase in consumption has occurred in the low income groups, among small farmers and low-skilled workers, whose incomes have been increased since the war by industrial and agricultural rehabilitation and, more recently, rearmament programs.

There are no available data showing what part of consumer income is spent for tobacco, but apparently the increase in tobacco consumption is disproportionately greater than the increase in total consumer spending over the same period. This is particularly evident in central and southern Italy, where prewar tobacco consumption was notably low.

Moreover the increase has occurred even though the demand for tobacco is relatively inelastic.¹⁰

The DOXA¹⁰ survey shows that most tobacco consumers either cannot afford better quality products or prefer medium and low quality tobacco. For example, out of a total of 21 brands available to the consumer, 3 brands--all in the low and medium-low-price range--accounted for 76 percent of cigarette sales in 1949. Ninety-nine percent of cigar sales were of the low-priced Toscano cigars, although there are 6 other types on sale. Much the same situation exists for pipe tobacco.

In spite of the overall increase in consumption, per capita consumption is still relatively low. In a recent world tobacco study, the Food and Agriculture Organization of the United Nations (FAO) placed Italy 21st in a list of 27 countries for which per capita data were available. A deterrent to higher per capita consumption is the large number of women who do not smoke. DOXA estimates that about 76 percent of all Italian women over 18 years of age do not smoke, whereas little more than 18 percent of the men in that age group do not. DOXA reports, too, that two-thirds of the women smokers interviewed admitted that they obtained a certain amount of pleasure from smoking but felt that smoking was not indispensable. On the other hand, 54 percent of the men declared that it was indispensable.

Since prewar, there has been a remarkable shift in Italy toward consumption of cigarettes and away from consumption of cigars and little cigars. By 1952, cigarette consumption was 80 percent of total consumption of manufactured tobacco compared with 61 percent in 1938. During the postwar period alone, cigarette consumption has risen 53 percent; compared with prewar, the increase has been 83 percent.

Probably the two most important factors in this shift to cigarettes have been (1) the war, during which men in service smoked more than they did as civilians and (2) the abnormally high level of industrial employment since the war that has brought higher incomes and, hence, more money to spend for such things as cigarettes. Too, when the American troops were in Italy, more cigarettes were available and many nonsmokers and non-cigarette-smokers among the Italian population began using them.

⁹ Per capita consumption is based on total population, which includes nonsmokers. There is no accurate way of determining the actual number of smokers; however, it has been estimated that there are about 15.3 million.

¹⁰ Istituto per le Ricerche Statistiche e L'Analisi dell' Opinione Pubblica, Bollettino della DOXA, Anno IV, Nos. 5-6, March 1950.

Although most Italian smokers do not know how much of what they pay for a package of cigarettes, for example, is tax, that tax nevertheless is a factor controlling consumption. DOXA estimates that the "average" smoker spends about 100 lire (16 cents) a day for tobacco; 80 of that 100 lire goes to the state as tax. The 80-lire tax is a substantial part of the 850-lire (\$1.33) average daily pay of a laborer.

Following are current retail price ranges for manufactured tobacco products:

	<u>Lire</u>	<u>Dollars</u>
Cigarettes:		
Pack of 20	120--320	0.19--0.51
Pack of 10	130--160	.21-- .27
Cigars (each)	15--150	.02-- .24
Little cigars (each)	15-- 30	.02-- .04
Pipe tobacco (1.8 oz.)	200--425	.32-- .68
Cigarette tobacco (0.7 oz.)	140--170	.22-- .27
Snuff:		
High grade (1.1 lbs.)	1,250	2.00
" " (0.2 lb.)	250	.40
1st quality (1.1 lbs.)	1,000	1.60
2nd quality (1.1 lbs.)	700	1.12

FOREIGN TRADE

Italy has never been a major tobacco exporting country, but it has improved its position as a net exporter of tobacco (principally raw leaf) during the past 5 years. Average total raw leaf exports during the 4-year period ending 1952 were 14 percent higher than prewar. The dollar value of raw leaf exports in 1952 amounted to \$6.8 million, more than 2 1/2 times that of 1939. The increase in exports is due in part to the global shortage of United States dollars, which has continued through the present and which is still measurably responsible for Italy's present relatively high export level. In fiscal 1951-52, exports consisted roughly of 32 percent Bright Italia, 40 percent Kentucky and Kentucky-type leaf, 12 percent Burley, 10 percent Oriental, and 6 percent Maryland. In spite of the preponderance of Kentucky tobacco, the dollar value of Bright Italia raw leaf exports amounted to \$2.9 million, almost 50 percent of the dollar value of total raw leaf exports. Kentucky accounted for 22 percent of the total value.

Principal outlets in 1952 were Germany, the Netherlands, the United Kingdom, and France. Germany, traditionally a heavy taker of Italian tobacco, took almost 25 percent of total raw leaf exports. Since 1948, the United States has gradually increased takings of unmanufactured Italian cigarette leaf; in 1952, it imported 1.6 million pounds, about 400,000 pounds less than in 1939.

All tobacco exports from Italy other than raw leaf are relatively insignificant.

Since the 1930's when Italy became a net exporter of tobacco, its imports have steadily declined. It did import substantial amounts of unmanufactured leaf from the United States in 1947 and 1948 and relatively smaller amounts through 1950. But this tobacco was used primarily to build up Italy's depleted stocks and to satisfy consumer demand while the industry was recovering from the war. In 1951 and 1952 the United States shipped no tobacco to Italy but during the first half of 1953 it sold 5.6 million pounds, almost four-fifths of which was unstemmed flue-cured leaf. Italy's principal sources of tobacco imports are Greece and Turkey, which supply primarily high quality Oriental leaf.

OUTLOOK

In spite of the relatively severe strain on its land resources, Italy is likely to increase production of tobacco in the near future to meet greater domestic requirements and possibly to satisfy its needs to develop exports. Through the Cassa del Mezzogiorno, a 10-year governmental program for land development in southern Italy, thousands of acres of swamp and other wasteland are being brought into production.

TABLE 16.--Exports and value of exports of Italian tobacco and tobacco products,
by country of destination, 1939 and 1947-52¹

Country	1939		1947	1948		1949	
	Quan- tity	Value	Quan- tity	Quan- tity	Value	Quan- tity	Value
UNMANUFACTURED TOBACCO:	1,000 pounds	1,000 dollars	1,000 pounds	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars
Leaf:							
Austria.....	....	....	....	472	185	....	....
Belgium-Luxemburg.....	1,468	161	....	....	....	50	15
Czechoslovakia.....	38	1	....	....	....	....	....
Finland.....	....	....	....	....	....	160	54
France.....	....	....	....	....	....	....	....
Germany.....	5,028	776	....	....	....	1,144	478
Aegean Islands.....	124	32	....	....	....	....	....
Netherlands.....	281	46	....	....	....	2,940	990
Poland.....	2,687	990	....	....	....	1,086	704
United Kingdom.....	81	19	....	24	10	986	515
Sweden.....	....	....	....	....	....	68	29
Switzerland.....	1,679	227	....	67	29	204	103
Hungary.....	662	221	....	....	....	....	....
Russia.....	....	....	....	....	....	4,630	946
Dutch East Indies.....	39	9	....	....	....	....	....
Belgian Congo.....	....	....	....	....	....	....	....
British East Africa.....	....	....	....	....	....	88	19
British West Africa.....	....	....	....	....	....	....	....
French West Africa.....	....	....	....	....	....	22	6
Egypt.....	37	7	....	....	....	167	60
Eritrea.....	29	1	....	....	....	....	....
Algeria.....	4	....	....	....	....	....	....
Libya.....	420	115	....	....	....	....	....
Morocco.....	....	....	....	....	....	67	17
Argentina.....	41	15	....	71	40	223	141
Uruguay.....	....	....	....	....	....	....	....
UNITED STATES.....	2,024	191	....	55	33	652	504
Indochina.....	....	....	....	....	....	149	45
Other countries.....	4	4	....	....	....	....	....
Total.....	14,646	2,815	....	689	297	12,636	4,626
Stems:							
Austria.....	....	....	....	565	44	186	5
Finland.....	....	....	....	21	5	....	....
Aegean Islands.....	....	....	66	....	....	....	....
Netherlands.....	....	....	1,082	....	....	....	....
Sweden.....	....	....	....	....	....	220	12
Switzerland.....	123	1	....	729	45	19	7
UNITED STATES.....	808	30	....	....	....	1,593	26
Other countries.....	....	....	....	....	....	....	....
Total.....	931	31	1,148	1,315	94	2,018	50
Other unmanufactured tobacco products and substitutes:							
United Kingdom.....	....	....	....	....	....	789	9
Netherlands.....	....	....	....	....	....	....	....
Sweden.....	....	....	604	....	....	....	....
Switzerland.....	666	6	2,095	2,128	63	....	....
Germany.....	....	....	....	....	....	....	....
Other countries.....	....	....	....	....	....	....	....
Total.....	666	6	2,699	2,128	63	789	9
MANUFACTURED TOBACCO:							
Cigarettes.....	2,343	2,001	....	....	....	....	....
Common cigars.....	366	353	12	11	19	....	....
Other cut tobacco.....	22	21	....	....	....	....	....
Snuff.....	....	....	....	....	....	....	....

¹ Data for 1951 and 1952 are sometimes not consistent with official Italian trade data, in which it is often the practice to give totals but omit complete country listings. Extreme fluctuations in the value of the Italian lira in 1947--from 376 to 909 lira for \$1.00 U.S.--made it impractical to compute an average rate of exchange for that year; therefore, only quantities are listed. For the remaining years, the following official rates of exchange (in lira per dollar) were used in computing foreign trade dollar values; 1939-19; 1948-575; 1949-589; 1950 through 1952-625.

TABLE 16.--Exports and value of exports of Italian tobacco and tobacco products, by country of destination, 1939 and 1947-52¹--Continued

Country	1950		1951		1952	
	Quantity	Value	Quantity	Value	Quantity	Value
UNMANUFACTURED TOBACCO --Continued	<i>1,000 pounds</i>	<i>1,000 dollars</i>	<i>1,000 pounds</i>	<i>1,000 dollars</i>	<i>1,000 pounds</i>	<i>1,000 dollars</i>
Leaf:						
Austria.....	....	....	....	....	....	....
Belgium-Luxemburg.....	....	....	....	....	625	130
Czechoslovakia.....	....	....	....	....	....	....
Finland.....	....	....	....	....	....	....
France.....	....	....	1,217	374	2,199	734
Germany.....	2,822	1,199	2,258	854	3,989	1,571
Aegean Islands.....	....	....	....	....	....	....
Netherlands.....	5,211	1,717	3,478	1,255	2,720	1,010
Poland.....	4,683	2,588	....	....	151	41
United Kingdom.....	919	560	2,178	1,460	2,402	1,698
Sweden.....	....	....	....	....	293	120
Switzerland.....	301	127	1,119	469	1,040	472
Hungary.....	....	....	....	....	....	....
Russia.....	1,984	387	3,527	614	....	....
Dutch East Indies.....	....	....	....	....	....	....
Belgian Congo.....	....	....	....	....	41	9
British East Africa.....	....	....	....	....	....	....
British West Africa.....	....	....	....	....	27	11
French West Africa.....	....	....	....	....	....	....
Egypt.....	....	....	....	....	252	91
Eritrea.....	....	....	....	....	....	....
Algeria.....	....	....	....	....	409	112
Libya.....	....	....	....	....	9	2
Morocco.....	440	108	....	....	2	1
Argentina.....	....	....	....	....	....	....
Uruguay.....	....	....	....	....	213	135
UNITED STATES.....	1,531	789	990	633	1,584	929
Indochina.....	....	....	....	....	1,382	391
Other countries.....	2,429	768	2,113	625	4	158
Total.....	20,320	8,243	16,880	6,284	17,342	7,460
Stems:						
Austria.....	....	....	....	....	....	....
Finland.....	....	....	....	....	....	....
Aegean Islands.....	....	....	....	....	....	....
Netherlands.....	....	....	....	....	....	....
Sweden.....	....	....	....	....	....	....
Switzerland.....	....	....	....	....	....	....
UNITED STATES.....	....	....	....	....	....	....
Other countries.....	575	5	441	3	....	....
Total.....	575	5	441	3	....	....
Other unmanufactured tobacco products and substitutes:						
United Kingdom.....	....	....	....	....	....	....
Netherlands.....	....	....	....	....	55	12
Sweden.....	....	....	....	....	....	....
Switzerland.....	202	105	....	....	....	....
Germany.....	168	38	....	....	....	....
Other countries.....	309	4	45	17	....	....
Total.....	679	147	45	17	55	12
MANUFACTURED TOBACCO:						
Cigarettes.....	212	1,506	73	151	106	107
Common cigars.....	....	....	....	....	37	74
Other cut tobacco.....	5	3	....	....	....	....
Snuff.....	....	....	9	12	5	6

See footnote on preceding page.

TABLE 17.--Imports and value of imports into Italy of tobacco and tobacco products, by source, 1939 and 1947-52¹

Source	1939		1947	1948		1949	
	Quan- tity	Value	Quan- tity	Quan- tity	Value	Quan- tity	Value
UNMANUFACTURED TOBACCO:	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Leaf:	pounds	dollars	pounds	pounds	dollars	pounds	dollars
Belgium-Luxemburg.....	....	....	....	....	....	329	178
Bulgaria.....	2,572	779	228	1,856	1,676	1,717	1,628
Germany.....	....	....	....	....	....	....	....
Greece.....	1,709	815	4,873	6,423	6,943	3,081	3,355
Aegean Islands.....	....	....	43	35	7	....	....
Yugoslavia.....	....	....	....	2,239	1,507	....	....
Malta.....	....	....	76	....	....	....	....
Netherlands.....	60	6	663	685	284	....	....
Spain.....	....	....	....	599	524	....	....
Switzerland.....	....	....	21	....	....	....	....
Turkey.....	22	3	2,510	3,407	1,878	171	121
Russia.....	....	....	....	....	....	791	603
Dutch East Indies.....	....	....	....	....	....	14	9
Iraq.....	....	....	....	....	....	11	5
Palestine.....	....	....	274	....	....	....	....
Eritrea.....	....	....	....	253	68	....	....
Libya.....	98	28	221	439	167	231	91
Argentina.....	....	....	1,449	....	....	....	....
Brazil.....	....	....	1,243	1,224	639	8	4
Cuba.....	69	15	121	....	....	....	....
Paraguay.....	....	....	115	....	....	....	....
UNITED STATES.....	354	115	17,989	10,220	7,448	1,940	1,352
Other countries.....	....	....	....	....	....	....	....
Total.....	4,884	1,761	29,826	27,380	21,141	8,293	7,346
MANUFACTURED TOBACCO:							
Cigarettes:							
Australia.....	....	....	....	....	....	....	....
Belgium-Luxemburg.....	14	21	....	....	....	....	....
France.....	37	76	....	....	....	....	....
Germany.....	88	124	....	....	....	....	....
Greece.....	....	....	3	44	90	1	5
Aegean Islands.....	98	68	....	4	2	....	....
Poland.....	15	28	....	....	....	....	....
United Kingdom.....	7	15	....	....	....	....	....
Switzerland.....	290	435	767	517	1,005	734	1,198
Hungary.....	26	71	....	....	....	....	....
Egypt.....	28	41	....	....	....	....	....
Libya.....	6	4	....	....	....	....	....
Free Port of Venice....	....	....	....	....	....	....	....
UNITED STATES.....	192	221	16	769	1,525	366	641
Other countries.....	....	....	....	....	....	....	....
Total.....	801	1,104	786	1,334	2,622	1,101	1,844
Other cut tobacco.....	....	....	....	....	....	....	....
Nicotine.....	....	....	178	102	55	271	375

¹ Data for 1951 and 1952 are sometimes not consistent with official Italian trade data, in which it is often the practice to give totals but omit complete country listings. Extreme fluctuations in the value of the Italian lira in 1947 - from 376 to 909 lira for \$1.00 U. S. - made it impractical to compute an average rate of exchange for that year; therefore, only quantities are listed. For the remaining years, the following official rates of exchange (in lira per dollar) were used in computing foreign trade dollar values: 1939 - 19; 1948 - 575; 1949 - 589; 1950 through 1952 - 625.

Source: Istituto Centrale di Statistica, Statistica del Commercio Con L'Estero.

TABLE 17.--Imports and value of imports into Italy of tobacco and tobacco products, by source, 1939 and 1947-52¹--Continued

Source	1950		1951		1952	
	Quan- tity	Value	Quan- tity	Value	Quan- tity	Value
UNMANUFACTURED TOBACCO:	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars
Leaf:						
Belgium-Luxemburg.....	....	....	....	....	....	....
Bulgaria.....	....	....	....	....	....	....
Germany.....	15	2	....	....	....	....
Greece.....	3,546	2,844	3,724	2,451	2,217	1,415
Aegean Islands.....	....	....	....	....	....	....
Yugoslavia.....	....	....	....	....	....	....
Malta.....	....	....	....	....	....	....
Netherlands.....	10	23	....	....	....	....
Spain.....	....	....	....	....	....	....
Switzerland.....	....	....	....	....	....	....
Turkey.....	2,306	1,281	953	682	2,099	702
Russia.....	848	667	882	640	....	....
Dutch East Indies.....	....	....	....	....	....	....
Iraq.....	....	....	....	....	....	....
Palestine.....	....	....	....	....	....	....
Eritrea.....	....	....	....	....	....	....
Libya.....	....	....	....	....	....	....
Argentina.....	....	....	....	....	....	....
Brazil.....	....	....	....	....	....	....
Cuba.....	....	....	....	....	....	....
Paraguay.....	....	....	....	....	....	....
UNITED STATES.....	2,328	1,743	....	....	....	....
Other countries.....	2	18	....	....	....	....
Total.....	9,055	6,578	5,559	3,773	4,316	2,117
MANUFACTURED TOBACCO:						
Cigarettes:						
Australia.....	....	....	11	17	....	....
Belgium-Luxemburg.....	....	....	....	....	....	....
France.....	....	....	....	....	73	86
Germany.....	....	....	....	....	....	....
Greece.....	....	....	....	....	....	....
Aegean Islands.....	....	....	....	....	....	....
Poland.....	....	....	....	....	....	....
United Kingdom.....	....	....	....	....	7	21
Switzerland.....	248	530	189	392	584	957
Hungary.....	....	....	....	....	....	....
Egypt.....	24	32	....	....	33	23
Libya.....	....	....	....	....	....	....
Free Port of Venice.....	....	....	39	93	23	62
UNITED STATES.....	231	357	49	89	316	490
Other countries.....	4	7	5	9	....	1
Total.....	507	926	293	600	1,036	1,640
Other cut tobacco.....	33	4,993	....	....	....	....
Nicotine.....	....	....	....	....	40	43

See footnote on preceding page.

Most of this land is going into grass, citrus, cotton, and sugar beets, but rather widespread testing of desirable tobacco varieties is also underway.

Increases in yields are likely as a result of technological improvements and experimental work carried on in the past principally by the Scafati Tobacco Institute and since 1946 by the Istituto Sperimentale Per I Tabacchi (ISST). The ISST organizes and directs all experimental work in tobacco culture and is also responsible for disease control experiments and adaptation of new varieties to Italian conditions.

It is expected that, as demand for Bright Italia leaf in Italy and the rest of Europe continues, there should be an increase in acreage of that variety with a somewhat corresponding decrease in acreage of others. The trade claims that there is currently a ready market for this variety and that so far there has been no slacking off in demand. Small increases in acreage are also likely for Nostrano dark air-cured, Maryland light air-cured, and Burley light air-cured. On the other hand, the surplus stocks situation for Kentucky fire-cured and Semioriental leaf is still critical and the monopoly will probably continue to press for additional decreases in acreage of both these varieties, shifting where possible to the varieties mentioned above.

As for consumption the most likely source of increase is the women. They constitute the largest single group of nonsmokers in Italy. Though it is admittedly a slow process to break down social mores, in Italy it is being speeded up by the heavy post-war influx of tourists among whom are many women smokers; by an effective publicity campaign of the monopoly in which posters and advertisements are used; and by motion pictures, both Italian and foreign, in which no stigma is placed on women smokers.

A small downward adjustment in the high tobacco tax would probably affect total tobacco consumption only slightly. The tax problem is a popular one, and its popularity is maintained by several economists in the form of public debates carried in newspapers. These have aroused a good deal of public sentiment especially since the major part of the smoking population is unaware of the portion of the retail price that is tax.

The most important factor, however, in any substantial increase in Italian tobacco consumption is a rise in consumer income. This is contingent to a great extent on a high level of industrial employment, which appears to be likely, at least for the near future.

Export levels will probably depend on the exchange situation and on domestic cigarette consumption. They could depend, too, on developments in the Greek and Turkish tobacco industries, which have enjoyed a general improvement since the war and which could, because of the relative high cost of Italian production, reduce demand for Italy's Oriental leaf, which makes up about 10 percent of its raw leaf exports.

Recently, Italy has been increasing its exports of Bright leaf in European markets that in the past bought United States flue-cured leaf almost exclusively. So long as Italy is able to maintain its apparent comparative trade advantage, there is every likelihood that this trend will continue.

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APPENDIX

The current official rate of exchange is 625 lire for \$1.00 U. S.

The following varieties of tobacco are included in these headings found in tables throughout the publication or referred to in the text:

Semioriental, or Levantine: Perustitza, Xanti Yaká, Sansun, Herzegovina, and Porsucian, Trapisum, and other minor varieties;

Subtropical air-cured: Root Rot Resistant Havana No. 142 and other Resistant varieties, and Goiano, Brasile del Grappa, Hybrid No. 4, Avana, Sumatra, Big Cuban, Round Tip, Big Havana, and minor varieties.

Blending tobacco dark air-cured: Moro di Cori, Secco di Sardegna, Spagnuolo, Cattaro, Salento Leccese, and other minor varieties;

Snuff tobacco: Erbasanta, Brasile Selvaggio, Spadone, Brasile Leccese, and other minor varieties;

Nicotine tobacco: Erbasanta, Brasile Selvaggio, Brasile Leccese, and other minor varieties.

